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THE DIAGNOSIS AND TREATMENT OF CARCINOMA OF THE COLON*

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DURING the past few years, many excellent papers on this subject have been written. Much work has been done tending to lower the mortality of this disease and a considerable degree of success has followed. Nevertheless, when we consider that this is one of the commonest sites of cancer, nearly 10% of all deaths from cancer coming from the large bowel, and that when untreated or diagnosed too late, is not only, of course, fatal but apt to carry with it a very distressing death, anything tending toward the early recognition or the safer treatment is justifiably discussed. This is particularly true when we consider that in favorable cases the percentage of cures may be high and that if both the patient and the doctor are keen, it may be recognized early in the curable stage in very many instances. The treatment is always surgical; therefore, details of technique together with preoperative treatment are as important and in some cases more important than any other part of the picture. These factors refer both to carcinoma of the colon and of the rectum. The treatment of the two differ only in this: that it is today recognized that in carcinoma of the rectum, the only thing that will give the patient the maximum chance of complete cure is the removal of the whole rectum and perirectal tissue with a permanent colostomy, whereas in carcinoma of the colon, continuity of the bowel can be restored after excision of the diseased segment.

First as to diagnosis: Since the place of the opaque enema x-ray in the field of diagnosis has become standardized, there has been no new factor that revolutionizes the recognition of the disease. Here, as in every other laboratory test, clinical evidence and x-ray findings must go together and one negative x-ray must not be taken as final, and even a positive must be repeated if other factors do not agree.

There are two important criteria that must be met if the patient is going to have the best chance for cure. First, he or she must recognize that trivial symptoms of bowel change are important and must report to a doctor who in turn must be willing to recognize that even the most unimportant symptoms may point toward trouble and must be willing to subject every patient, in whom these trivial symptoms do not clear up promptly, to a competent x-ray study, a proctoscopy if necessary, and sufficient examinations of stools to ascertain the presence or absence of occult blood. Although many cases are still at a stage where cure is possible, even though they do not report until an attack of intestinal obstruction, we must continue to emphasize the fact that it is the early recognition that is so important.

What are the symptoms that we should look for? In general it should be emphatically stated and reiterated again and again that any change, however slight, in the normal bowel behavior of any individual without known cause, particularly in the cancer age, persisting for more than a few days after adequate treatment is started, should demand the most painstaking investigation. Needless to say, it will require some judgment in many cases to select the point at which we will subject a patient to a bother and expense which may be of considerable moment to them and which, if it shows nothing, may seem to them a needless waste of time and money. The trivial symptoms which may or may not occur are the slow onset of increasing constipation, a sense of fullness, more gas than usual, transient or crampy pains that increase in frequency and severity as times goes on, and at times diarrhea or ever alternating diarrheas and constipation. As a rule, it is only late in the disease that bleeding, constant pain, or palpable tumor occurs. On examination there may be in addition a slight degree of anemia not accounted for. It should be needless to say that a digital rectal examination should always be made and the presence of hemorrhoids should not throw the examiner off the track where symptoms are present that suggest trouble higher up. In addition to the x-ray a proctoscopic examination may show early carcinoma in the rectum and will help to differentiate, in bothersome cases, ulcerative colitis and carcinoma. In approximately 10% of the cases, the first x-ray may be negative but the single examination should never be taken as final in the face of persistent symptoms, however trivial. Repeated examinations of the stools for occult blood should be done and the persistence of a positive test, if backed up by other evidence of

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disorder, is enough to justify exploratory operation even in the face of a negative x-ray. If the x-ray report comes back diverticulitis, it should not necessarily throw out all thought of cancer as the two conditions can exist together without any apparent causal relationship. I believe it is very rare that diverticula as such are responsible for persistent bleeding and in those cases where the presence of blood can be repeatedly demonstrated and there are increasing symptoms of bowel disorder, carcinoma as well as diverticulitis must be considered. The use of barium enemata will very often quiet down symptoms due to diverticulitis. It will, of course, have no effect on symptoms due to a beginning malignancy.

Given the diagnosis, what is the treatment? I am not going to discuss the palliative measures which can be used in those cases obviously inoperable. Other than the use of a permanent colostomy and of radium in certain cases of inoperable rectal carcinoma, the only treatment that ever offers anything of value is surgery. The mortality of the radical operation on either the colon or the rectum is so large that the patient should have the benefit of two things: first, a surgeon who has had sufficient experience in this form of surgery so that he can offer a reasonable amount of skill from a technical point of view; secondly, a long enough time for preoperative treatment so that the patient and his colon are both in the best condition to stand surgery.

Preoperative treatment: It is along this line that the greatest progress has been made and it is here that the lowering of mortality has taken place to a large extent. There are several factors that must be considered. The patient is generally beyond middle life and, because of this factor alone, has less reserve to draw upon at this time than a younger person. Because of the disease itself, body chemistry is generally upset, sometimes very badly. The colon, also, because of the backing up of fecal material behind an obstruction more or less complete, is in very poor condition. This means that infection may go through the wall of the gut without actual perforation or the suture line may not hold because edema has not been reduced, and what for lack of a better term we call local immunity has not been obtained. In extreme cases fecal impaction may lead to perforation. This means that the patient in general and the colon in particular must be put into as good shape as possible. Assuming that the obstruction is not complete, that means that several days should be spent in loading the individual with fluid, getting in an excess of carbohydrate, and getting the bowel as completely cleared as possible. Oil by mouth and by rectum to soften fecal impaction, enemata, and, where safe, saline cathartics to clear the bowel will generally accomplish this. A minimum of four days should be spent at this and the time will generally need to be prolonged. For twenty-four hours before operation, the patient should be given good-sized doses of tincture of opium so that the previous bowel activity will be quieted and the bowels be at rest when the operation is actually under way. The high fluid and carbohydrate intake can be encompassed in several ways. As much should be taken by mouth in the form of fluids and low residue diet as possible within the limits of nausea. Oftentimes this restricts the actual amount to a considerable extent. We have found that the use of barley candy gives an opportunity for a large intake of easily handled glucose; but fluid and glucose by rectum, subcutaneously, and intravenously can and often should be resorted to as an additional means of supply. When I say glucose by rectum, I know that I am running into the laboratory statement that glucose is not absorbed from the rectum. This does not prevent me from using it as we know from the x-ray reports that the ileocecal valve is oftentimes incompetent to a barium enema and I see no reason why it should not often allow other fluids such as glucose in solution to go back into the ileum and be absorbed from there. Where the obstruction is sufficient to prevent the use of rectal fluid, the subcutaneous or intravenous fluid and glucose must be resorted to.

In resections of the large bowel, the chief cause of death postoperatively is sepsis. Whatever will give a reasonable method of reducing this danger should be used. Rankin from the Mayo Clinic has given us figures which show that intraperitoneal inoculation of a vaccine made from the two predominant strains of bacteria cultured from fatal peritonitis has apparently given wonderful help. In a series of reported cases, the mortality has been reduced from 23% to 5%. The patients receive two injections several days apart and apparently these injections are very vicious things from the patient's point of view as there is a considerable reaction in general malaise and fever. We know from other work that has been done in relation to peritoneal reaction to foreign substances that other foreign bodies may cause a beneficial non-infectious peritonitis. A considerable amount of work has been done in the postoperative use of amniotic fluid. The original work by Johnson, as well as other work by Warren, Trusler, Lacey and others, seems to me very convincing. I have used amniotic fluid, more lately the amniotic fluid concentrate, in a great many cases of all kinds and I am entirely satisfied that it does do something to stimulate normal healing within the peritoneum. What the exact mechanism is.

I am not prepared to argue, nor do I think it is of great importance to know. It seemed to me, because of this known fact, that it was reasonable to suppose that it would cause a beneficial reaction preoperatively. Accordingly, with the help of Dr. J. Stewart Rooney at the Harvard Medical School and with the coöperation of the East Surgical Service at the Massachusetts General Hospital, this substance has been employed in the same way that Rankin uses his vaccine. On the basis of the amount of animal experimental work done to date and the relatively few clinical cases, it is obviously unfair to make any arbitrary statements. Nevertheless, it seems to us that there is much experimental and some clinical evidence to show that the use of this solution is beneficial. It is used three days and one day preoperatively in doses of 100 c.c., the patient does not get any serious reaction, sometimes none at all, and the only objection is that common to all intraperitoneal injections; namely, the possibility of injuring the bowel. We expect to be able to publish in detail the animal experimental work as well as the clinical cases at some later date.

When the patient is ready for operation, the type of anesthesia may be of extreme importance. If it is the emergency first stage in an acute obstruction, there is no question in my mind but that any risk that may go with spinal anesthesia is more than compensated for by the benefit of having the bowel at rest and if the situation is so desperate that spinal anesthesia seems out of the question, local is the next choice. After we have the patient thoroughly prepared for the secondary resection, the type of anesthesia is again important and should be chosen with special reference to the condition of that patient's cardiovascular system or cardiorenal system and the technical difficulties involved in the individual problem.

The various types of operation are more or less standardized at the present time. All lesions of the left side of the bowel or of the transverse colon should have a previous cecostomy. This allows a more efficient preparation of the colon and allows the cecostomy to act as a safety valve after the resection. The cecostomy, if properly done, will close itself in the majority of cases. I have been in the habit of using a large rubber tube implanted in the cecum by the Witzel method and, where possible, catching the omentum around the tube and dropping the cecum back into the abdominal cavity without hitching it to the abdominal wall. The tube is not cuffed so that, when removed, it leaves behind two serous surfaces which tend to fall together and obliterate the opening. Where the cecostomy is done during an acute obstruction with a badly distended cecum, this is often impossible and there the preliminary suturing of the cecum to the peritoneum around the wound may prevent a fatal peritonitis but may also force a third minor operation for closure of the opening after the resection.

Where the lesion is in the right half of the bowel, obstruction is rarely the first sign and the diagnosis is generally made when there is still opportunity for getting the patient and the patient's colon into good condition without preliminary drainage. The standard resection in these cases is of the whole right colon with an ileocolostomy at the same time. This is best done at one sitting.

In any of these places where the bowel can be mobilized, the several stage Mikuliez operation may be done where the patient's strength is not equal to the more satisfactory resection. Even though it is a carcinoma of the cecum, this operation has been done as a method of anastomosis between large and small bowel. As a means of carrying very feeble patients through resections without subjecting them to any one operation of serious magnitude, it is very satisfactory.

There are details of the operation itself which are largely a matter of personal usage. I have always drained resections of the large bowel, however clean and satisfactory the operation itself may have seemed to be. I prefer the safety of drainage even though the criticism cannot be denied that the presence of a foreign body next to the suture line may increase the risk of a leak.

Ever since the method of aseptic resection was first described, it has seemed to me an ideal way not only in resecting small bowel but also in the large, and after searching in vain for some instrument to facilitate the operation in the large bowel, I devised a double clamp, the separate halves of which are placed on the ends of the gut to be reunited and when the diseased part has been removed by the cautery, these are locked together so that the resuture can be made around the clamp without any soiling. This has been extremely satisfactory in the hands of those of us who have used it.

Postoperatively, the maintenance of fluid and an intake which should contain carbohydrates, proteids, and minerals is the quickest way of restoring the patient to a normal condition.

To summarize, I want to emphasize the things which we are continuously emphasizing:

1. The need of early diagnosis which means the need of extensive investigation in the early suspicious cases.
2. Extensive preoperative preparation of the patient.
3. Careful surgery based on well-recognized principles of resections.

CONVALESCENT SERUM THERAPY IN PREPARALYTIC POLIOMYELITIS*

BY S. D. KRAMER, M.D.,† W. L. AYCOCK, M.D.,† CHARLES I. SOLOMON, M.D.,† AND C. L. THENEBE, M.D.†

THERE are numerous reports in the literature on the treatment of early acute poliomyelitis with human convalescent serum. The results are difficult to compare because of the small number of cases in many of the reports, variation in the dose or method of administering the serum, and inexactness in measurement of the outcome of the cases. Finally the lack of comparable control untreated cases makes it impossible to determine to what extent the outcome of a group of treated cases has been influenced by the inclusion, by reason of early diagnosis, of mild cases ordinarily missed.

From both the theoretical and experimental points of view there are grounds for believing that convalescent or other immune human serum may be effective in the treatment of early poliomyelitis. From the clinical point of view, therefore, its use has been justified even though definite proof of its value is lacking.

Because of the uncertainty and inconclusiveness of the various reports on the one hand and of the theoretical and experimental evidence in favor of treatment with human convalescent serum on the other, we have, in previous years, attempted to obtain additional information concerning the usefulness of this form of therapy. It has been our aim to treat as large a number of preparalytic cases as possible with a uniform dosage and method for administering the serum and to measure exactly the outcome of cases by a detailed muscle examination. It was realized at the outset that since this work was to be conducted on patients reached through a traveling diagnostic service, it would not be possible to obtain parallel groups of treated and untreated cases. We felt, however, that some information might be gained from the study of a relatively large number of cases diagnosed and treated under uniform conditions. Treatment was confined to patients seen in the preparalytic stage of the disease because of the limited amount of serum available and because the best results could be expected if the serum were given early.

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The combined intravenous and intraspinous methods for administering the serum were selected as the most direct routes according to the best experimental evidence available at the time. The amount of serum used per patient has varied from time to time, depending entirely on the available supply. Ordinarily between 60 c.c. and 100 c.c. have been given to the patient, 20 c.c. to 40 c.c. of this being administered intraspinously and the remainder intravenously. Details of the technique used in collecting, preparing and administering the serum have been reported elsewhere[1]. The number of patients so treated is now over 800. The effects of serum treatment on these patients have been studied by comparing the amount of paralysis in patients treated with serum with that of patients first seen in the postparalytic stage. The results in several hundred such treated cases compared with a large number of untreated cases have already been reported[2, 3].

In previous publications we have repeatedly expressed our awareness of the shortcomings of our study. We have realized that our treated groups may have included an unknown proportion of mild, non-paralytic cases, which type of case was missed in the untreated groups with which the treated cases were compared. However, the difference in the outcome between treated and untreated cases has been so constant and so strikingly in favor of the treated groups that it has not seemed that the apparent effects of early treatment could be ascribed entirely to the inclusion of a larger proportion of mild cases in the treated group. Moreover, there are certain indications that such was not actually the case. For example, 65 per cent. of the cases treated in 1927-1928 developed some paralysis, indicating that we were not dealing to any large extent with non-paralytic forms of the disease. Furthermore, a calculation of the number of mild cases which must have been missed in order to equalize the results in the treated and untreated groups gave a number so large that such an occurrence, especially in localities where intensive search for such mild attacks was made, seemed unlikely. It was felt, of course, that in spite of the apparently encouraging results from the use of serum, the study was not adequately controlled and that in a disease so unpredictable as poliomyelitis, where there is no single symptom or physical finding in the preparalytic stage to indicate the outcome, nothing short of an experiment with alternate

series of cases would serve to establish the efficacy of convalescent serum.

As has already been stated, such controlled observations were not feasible with the conditions under which the studies in Massachusetts were carried out. It was felt that such a study would be possible only under unusual circumstances; for example, in a locality where opinion was divided as to the usefulness of serum, or where the number of cases was so large as to make it impossible to obtain a supply adequate for the treatment of all those diagnosed in the early stage. Two outbreaks occurring recently seemed to offer an opportunity for such a study.

During the summer of 1931 an extensive outbreak of poliomyelitis occurred in Brooklyn, N. Y. Although the total number of cases assumed grave proportions, local health authorities and other agencies instituted measures for reaching, diagnosing, hospitalizing and treating a maximum number of patients. Through coöperative measures every attempt was made to obtain an adequate supply of convalescent and other sera.

A serious outbreak developed in Connecticut at about the same time. The actual number of cases reported in the state exceeded the number reported in the next largest outbreak, that of 1916. The outbreak was largely limited to four of the largest cities. The opinion of the physicians concerning the usefulness of convalescent serum was divided. The State Department of Health, with the coöperation of the Harvard Infantile Paralysis Commission, had made available a supply of human convalescent serum but there was not a universal demand for its use.

Through the courtesy and coöperation of two large hospitals, one in Brooklyn, N. Y., and the other in Hartford, Conn., opportunity was afforded us to observe a group of patients who had been given serum in the preparalytic stage of the disease, and a similar group which, for one reason or another, had not been treated. Eighty-two cases of poliomyelitis were studied in the preparalytic stage, approximately half of which received human convalescent serum by the intravenous and intraspinous routes. The procedure was as follows:—on admission to the hospital a careful history was taken. If the duration of the illness was shown clearly to be no longer than three days, the patient was accepted for study. A careful physical examination was then made, including the testing of all the muscle groups to rule out cases with some weakness, in order to be sure that no cases with any detectable paralysis were included. The final step in diagnosis consisted in the examination of the spinal fluid. All of the cases reported here had the physical and spinal fluid findings of preparalytic poliomyelitis. The patients treated were given convalescent serum immediately. The dosage was 60 c.c. intravenously at the first sitting and 40 c.c. intraspinously in two sittings, 8 to 12 hours apart.

A second muscle examination was made by the attending orthopedic surgeon usually within 24 to 48 hours after admission and again before discharge, in most instances two or three weeks later. Finally, a complete muscle examination by a specially trained worker was done on all of the patients at the completion of the study.

Early in the course of the observations, it became evident that the disease was relatively mild. This was noted in the lessened extent of the paralysis as well as in the smaller percentage of cases developing paralysis, hence any difference in treated and untreated cases could not be so striking as in an outbreak where the incidence and severity of paralysis were greater.

The average paralysis of treated preparalytic cases in 1927 and 1928 in Massachusetts and in 1930 in Massachusetts and Maine was 19.0, 12.9, 23.1 and 30.4 respectively; whereas the average paralysis per case seen in the preparalytic stage in 1931, for Hartford and Brooklyn combined, irrespective of whether treated or untreated, was 9.0. The average paralysis of over 300 cases treated in the preparalytic stage of the disease in Massachusetts in 1931 was 9.5.

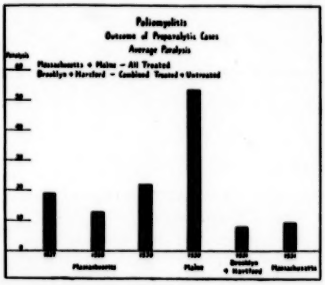

CHART I.

In chart No. I is shown the average paralysis previously observed in preparalytic cases compared with the 1931 outbreak in Massachusetts, Brooklyn and Hartford. It will be seen that, with the exception of 1928, the average paralysis for the 1931 cases was lower than for any series of preparalytic cases studied in previous years*.

In Chart No. II are plotted the individual cases for the years 1927, 1928, 1930 in Massachu-

*Note: In this paper only the total paralysis in each case is shown since the recording of paralysis of the various degrees of severity,—good, fair, poor, trace and gone—gives figures too small for analysis.

setts, 1930 in Maine, and 1931 in Massachusetts and Brooklyn and Hartford, in the order of their severity. Here again it is quite clear that the 1931 outbreak was consistently milder than those heretofore encountered.

Of the eighty-two cases of poliomyelitis which were studied in Brooklyn and Hartford, forty-two, or 51 per cent., developed some paralysis, this number being divided about equally between the two cities. There were two deaths from respiratory paralysis. Both of these were in the treated group, one in Brooklyn and one in Hartford. In the remaining cases the average paralysis for the treated group in Brooklyn and Hartford combined was 12.1 and for the untreated group, 5.9. This difference, however, is not uniform or constant, as can be seen on chart No. III in which the individual cases, treated and untreated, are plotted in order of their severity. From chart No. III it is clear that this difference between treated and untreated cases is due to a relatively few severely paralyzed cases in the treated series which are sufficient to affect markedly the average for the whole group. This is further brought out when the Brooklyn and Hartford cases are analyzed separately. The average paralysis per case in the treated group in Brooklyn is 1.4, in the untreated group it is 8.1. The average paralysis in the treated cases in Hartford was 20.4, whereas the untreated cases showed an average paralysis of 4.3. The proportion of cases developing paralysis in the Hartford group did not differ materially from that in Brooklyn, but an appreciable difference is evident in the outcome. That this difference is due to the inclusion of a relatively small number of severely paralyzed cases in the Hartford group is evident in charts No. IV and No. V in which Hartford and Brooklyn cases, treated and untreated, are plotted in the order of their severity. It will be seen that the extreme irregularity between the treated and untreated cases is accounted for by the five badly paralyzed cases included in the Hartford treated group. Thus in Brooklyn, when the outcome of the treated cases is compared with that of the parallel untreated cases, the weight of the evidence is with the treated group; whereas in Hartford, because of the presence of the five severely paralyzed cases, the results are reversed and the untreated group is favored. Analysis of the outcome of cases with respect to the day of illness on which the patient received treat-

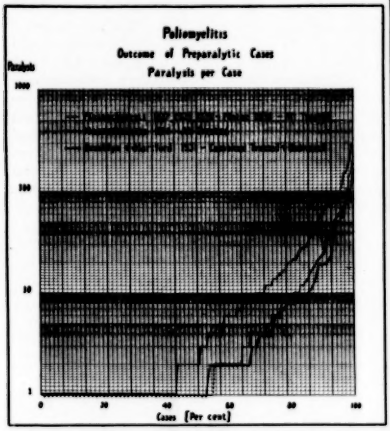

CHART II.

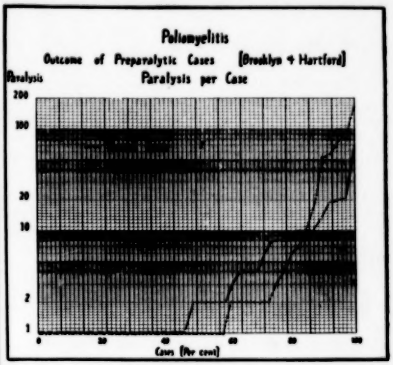

CHART III.

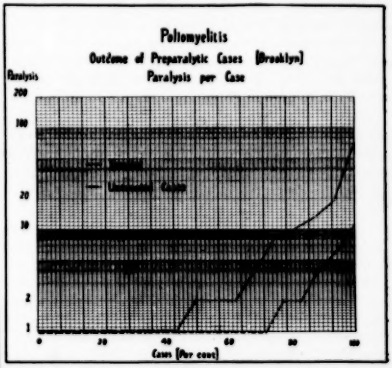

CHART IV.

ment seemed to give some indication that the irregular results in Hartford might be accounted for by the lateness of the treatment in several of the severely paralyzed patients, but from a statistical point of view no deduction could

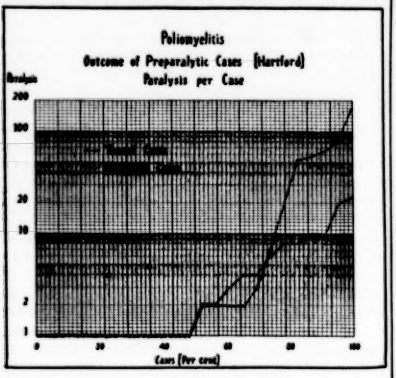

CHART V.

be made. The five divergent cases mentioned account for 92 per cent. of the total paralysis of the treated Hartford cases, for 81 per cent. of the paralysis in the combined Brooklyn and Hartford treated cases and for 60 per cent. of the total paralysis of the entire group of cases included in this study. Since it appears that these cases were included on the same basis of selection as the other cases in the group, it would seem that such an irregularity could be ascribed only to chance variation in a limited number of cases in a relatively mild outbreak.

Thus in this therapeutic test of serum which more nearly approaches a controlled experiment than any we have heretofore been able to make, we failed to obtain statistical evidence that convalescent serum is effective. However, it is not possible to draw the reverse conclusion, namely that serum is of no value.

While no conclusion can be drawn as to the efficacy of convalescent serum, the outcome of this study justifies its continuation on a larger scale.

We wish to acknowledge our indebtedness to the following for their helpful coöperation—

Dr. Shirley F. Wynne, Commissioner of Health, New York City.

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Drs. Benjamin Kramer, B. Wolfort, B. Koven, and I. Sands of Brooklyn, N. Y.

Drs. V. Cenci, Thomas Moylan and Maurice O'Connor of Hartford, Conn.

REFERENCES

1 Aycock, W. Lloyd; Luther, Eliot H., and Kramer, S. D.: J. A. M. A. 92: 385-388 (Feb. 2) 1929.

2 Aycock, W. Lloyd, and Luther, Eliot H.: J. A. M. A. 91: 387-393 (Aug. 11) 1928.

3 Aycock, W. L.; Luther, E. H.; McKhann, C. F.; Smith, E. C., and Kramer, S. D.: J. Infect. Dis. 45: 175-190 (Sept.) 1929.

WHEN SHOULD THE GENERAL PRACTITIONER REFER THE PATIENT TO A SPECIALIST FROM THE CANCER VIEWPOINT?*

J. L. ATLEE, M.D.

The general practitioner is the backbone of the medical profession, of which it is trite to say that no one member's mind can compass the various refinements in diagnosis known to medicine today. We frequently need the aid of the man who has limited his time and energy to some one special department.

One symptom that immediately and always demands special study is hematuria. Blood in the urine is never normal, always wrong. The cause thereof can usually be detected only by a careful cystoscopic examination at the hands of a competent genitourinary specialist.

Bleeding from the vagina after the menopause, and earlier in life between the menstrual periods, especially on irritation, likewise is always a red light that means danger. Do not be satisfied if the routine pelvic examination is negative, for then the danger of cancer is all the greater, and study by a skilled gynecologist is essential.

Every tumor of the breast, and bleeding and discharging nipples with or without tumor, requires a lot of study and experience in such cases for correct diagnosis and treatment.

Do not accept the patient's diagnosis of piles, especially if the symptoms have developed gradually in later life. Look and feel, and if not very certainly hemorrhoids and nothing else, have a more experienced man do a proctoscopy.

Very few of us have devoted our professional lives to looking down the esophagus and trachea, but those who wish to be experienced must do so. Refer the patient who complains of difficulty in swallowing, or of an irritating cough, to such a specialist.

"Indigestion" appearing in later life, the wolf in sheep's clothing, may need roentgenologist, internist, pathologist, and then a good surgeon to reveal the truth.

Finally, any sore, anywhere, at any time of life, that fails to heal promptly demands special study by a good pathologist. Of course you will have had a Wassermann made, and smears and cultures, but there is no law against having two or more diseases at the same time. Because your patient has lues is no reason to diagnose an ulcer of the lower lip as syphilitic.

Cancer, like fire, can easily be stopped if it can be detected and reached in its very beginning. But when once well started the story is vastly different. To "wait for developments," if cancer is present, is waiting for agony and death, not for cure.

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VERMONT STATE MEDICAL SOCIETY

THE PRESENT STATUS OF BCG VACCINATION*

BY S. A. PETROFF, PH.D.†

I HAVE been asked to speak to you on a topic which has recently occupied the minds of many students in tuberculosis, namely, the prophylactic immunization of babies with a vaccine known as BCG. (Bacillus Calmette-Guérin.) I shall attempt to bring together some of the most important points of interest, to present to you data which I have collected during the past five years from personal observation and to give you my critical view as to the value and safety of this method. Unquestionably, this method of vaccination has created considerable interest among health officers and the conflicting reports have put them in an unsettled state of mind, and I hope that my remarks may be of some value to them.

Before I proceed with my main thesis I would like to introduce a few remarks which will prepare us for a more complete understanding of why a vaccination against tuberculosis is still a desirable measure.

No problem in tuberculosis, since the famous controversy on the entity of bovine and human tuberculosis some twenty-five years ago, has created such a feverish discussion among the students of tuberculosis and public health specialists as the prophylactic immunization against tuberculosis advocated by Professor Calmette of the Pasteur Institute, known as BCG vaccination.

All efforts in the last two decades have been concentrated on sociological and educational measures which unquestionably played no small part in reducing mortality from tuberculosis, but had very little influence in reducing the morbidity. Today, there are just as many people infected with tubercle bacilli as in former years. It shows us clearly that we have failed to build up a specific resistance in the human race.

The underlying principles of the resistance to tuberculosis were considered as a closed book a few years ago. It was generally accepted that immunity to tuberculosis depended chiefly on the establishment of a tuberculous focus in the body. This conception was based on the classical discoveries made by Koch (known as Koch's phenomenon) that an infected person reacted entirely differently to a subsequent infection, than one who had never had tuberculosis.

With the discovery of the tubercle bacillus and with the demonstration of various immunological and humoral antibodies it became the ambition of every investigator to devise some method of prophylactic immunization against tuberculosis. At first a suggestion was made to use heat-killed organisms, but the results with this method were disappointing and the method was soon discarded. Later the organisms were either killed or modified by various chemical means. Most of these methods appeared like meteors holding attention for a short time and then fading into oblivion. Today, they are of historical interest only. A few of them, however, did have some merits.

Up to a few years ago practically all investigators firmly believed that only a living virus could establish a definite protection against an infection. Studies were concentrated, therefore, on finding an organism which could live and multiply in the human and animal body and not produce a progressive disease, but could establish a definite immunity. Announcements were made from time to time that such an organism had been found. The memory is still fresh in our minds of the startling announcement by Friedmann in 1912 when he attempted to use turtle bacillus for prophylactic immunization.

The majority of you know what the BCG vaccine is and what it is supposed to accomplish. For those who are not acquainted with the subject I shall give a short history of its development. In 1908, Doctors Calmette and Guérin isolated a tubercle bacillus from a calf. At the time of isolation, it was pathogenic for guinea pigs, rabbits, horses and cattle. After five years' cultivation on a glycerin potato bile medium devised by these investigators, it lost its pathogenicity for all laboratory animals.

PREMISES UPON WHICH THE METHOD OF CALMETTE'S VACCINATION ARE BASED

The prevalence of tuberculous infection among children in the civilized world, as demonstrated by the tuberculin skin test and the low occurrence of clinical disease, has convinced the majority of students of tuberculosis, that the establishment of a small non-progressive tuberculous focus in the body develops a certain degree of immunity against a subsequent infection. As the dosage of such a spontaneous infection in childhood cannot be controlled, it has been suggested by a number of investigators that an organism of fixed characteristics producing non-progressive disease may be ideal as a vaccine for prophylactic immunization. Pro-

*From the Research and Clinical Laboratory, Trudeau Sanatorium, Trudeau, N. Y.

Address to the Vermont State Medical Society, Rutland, Vermont, October 8, 1931.

†Petroff—Bacteriologist and Director, Research and Clinical Laboratory, Trudeau Sanatorium. For record and address of author see "This Week's Issue," page 480.

fessor Calmette claims that his culture known as BCG is most suitable for the purpose because once inoculated into babies it establishes a non-progressive focus in the lymph nodes thus producing immunity.

Two factors enter into the discussion when the method of vaccination is based on the use of living organisms: Is it dangerous? Is it effective?

In regard to the pathogenicity of the organism, the opinion seems to differ considerably. Some never have been able to produce appreciable lesions, while others have, from time to time, obtained variable results, and still a third group of investigators have been able, not only to observe progressive tuberculosis in some of the animals inoculated, but such lesions were transferable from animal to animal.

Calmette, in a paper published in 1926, states that BCG has lost all its power to produce tubercles in domestic animals such as the horse, cow, sheep, guinea pig, rat, mouse, and in birds, fowls and pigeons. Ingestion of a considerable quantity of a fine suspension or intravenous inoculation causes no mishaps and produces no tuberculous lesions. A dose larger than 5 mgms. inoculated subcutaneously in a guinea pig produces only a small cold abscess, which drains externally and cicatrizes without leaving any trace except a small subcutaneous nodule.

Upon reëxamining his own data, it is evident that the author had modified his former views. In some of his recent papers of 1928 and 1929, he admits that sometimes visceral lesions may occur but these are of no significance for the reason that, in time, they completely heal and disappear. Calmette has considerable support in the contention that BCG is not pathogenic for the small laboratory animal.

A great many investigators are in accord with Professor Calmette in the belief that the organism is innocuous. A number of them, however, have modified their former views and today they consider the vaccine not free from danger.

Rudolph Kraus, several years ago, observed tuberculous lesions in guinea pigs inoculated with the organisms, and concluded that they had a slight virulence. In some later experiments, inoculating guinea pigs with BCG for a second time, he was able to increase the extent of the lesions. In a more recent publication, he modifies his original opinion and states that the organism is tuberculogenic and is not pathogenic, and that it is a virus fixed. This author has recently reported new studies in which he describes the possibilities of modifying the organism to such a state that it produces progressive disease in guinea pigs.

My interest in BCG began in 1924 when Doctors Schroeder, Watson and I had a conference to discuss the new discovery announced from Paris. As I had been working on the problem of immunity in tuberculosis for twenty years, I became very much interested in this measure advocated by the French investigator and obtained my first culture from Dr. Watson, of Ottawa.

In a series of guinea pigs inoculated with this culture, I found that a small number of animals developed progressive tuberculosis. The results obtained in this case were contradictory to those of Calmette, who still considers the organism innocuous.

My second culture was that brought to me from Paris by Dr. Lawrason Brown. And the third culture, I obtained directly from Professor Calmette. With the second and third cultures, I observed typical progressive tuberculosis in about 2 per cent. of the guinea pigs which had been inoculated subcutaneously or intraperitoneally. From my studies with these three cultures, I came to the conclusion that BCG was an organism of low virulence, producing tuberculous changes which had the tendency to heal. But in a small number of animals which had been under observation for about eighteen months progressive tuberculosis developed. The organism isolated from the lesions when inoculated into healthy guinea pigs produced a progressive disease which could be transferred in a series of animals.

What was the reason that I got progressive tuberculosis in only a few cases? About that time I was engaged in the study of microbic dissociation, a phenomenon observed in practically all microörganisms. The phenomenon may be summarized in a few words. In almost every culture of bacteria there are found variants, one which is called S and the other R. During the process of reproduction it is believed that the R reproduces R's and the S reproduces R's and S's. The former is nonpathogenic and the latter produces fatal disease. Accepting this phenomenon as a basis worthy of consideration, I was able to dissociate two types of colonies from the BCG cultures.

After making these observations repeatedly, I was convinced of their correctness and submitted a copy of my manuscript to Professor Calmette, before publishing the studies. My findings which were contradictory to his, created considerable controversy.

I believe that the dissociation phenomenon can explain the instability of the organisms. There are a number of other methods which may be employed to increase the virulence of BCG cultures. The recent studies reported by Medlar and Sasano, of the Metropolitan Life Sanatorium, are of great importance. These authors have increased the virulence of BCG cultures by cultivating them on rabbit serum medium. Dreyer, of Oxford University, has increased the virulence by cultivating the organisms under the surface of a fluid medium. Hans Much has modified it with lactic acid. Hormaeche has obtained

the same results by infecting guinea pigs with BCG and then reinfecting the animals with streptococcus. Korschun, and, independently, Hutyra and Watson have accomplished the same result by passing the disease from animal to animal.

In 1928, I had the privilege of talking before the League of Nations Meeting at Paris, where the question of the value and safety of this vaccination was discussed. Being one of the few who were opposed to the use of BCG, I was made the target for an attack.

Since my earlier publications, confirmatory data have appeared in the literature corroborating my observations on dissociation of acid-fast organisms into R's and S's. Not only the pathogenic member of this group, but also the nonpathogenic has been dissociated, so today I may safely state that no microörganism is stable.

More recently Nohlen and Mielivay by carefully controlled experiments have produced progressive tuberculosis in monkeys and Uhlenhuth and Seiffert in guinea pigs, while Deycke has corroborated the dissociation of BCG.

My finding of pathogenic organisms in the BCG cultures has been attributed to contamination with human organisms by Professors Calmette and Neufeld for the reason that the pathogenic S in the BCG culture is virulent for guinea pigs only. Their argument is that if my virulent culture was the offspring of BCG, which was of bovine origin, it should produce tuberculosis in rabbits. The differentiation of human and bovine bacilli by animal inoculation is inadequate at present. There are a number of intermediate types which cannot be classified as either human or bovine by this method. For the last year I have been studying organisms isolated from babies, material supplied from the Johns Hopkins Hospital. Among the cultures isolated from these babies, a large number cannot be classified as either human or bovine.

Munroe recently has called attention to a number of cultures isolated from sputum of patients, which could not be classified as human or bovine. I have an organism in my possession today, obtained from Watson, which was isolated from a calf. It produces tuberculosis in guinea pigs and cattle but not in rabbits. I wish some one would tell me what type of organism it is. With all these data at hand, today, I cannot conscientiously state that this is human or that it is bovine. All I can say is that it is of human or bovine origin. The possibility of mutation of bovine into human beings has occupied the minds of a great number of investigators. The majority believes in the fixed type of tubercle bacillus. But I wish that some one would tell us what happens to the bovine organism after puberty because we know that up to that period of life approximately 12 per cent. of children have bovine infection. Such being the case, I do not see how Professors Calmette and Neufeld can be fair in stating that my cultures are contaminated with human strains because they will infect only guinea pigs and not rabbits. Is it not possible that the BCG which was pathogenic at the beginning for all laboratory animals in time lost some of its characteristics, first for guinea pigs and calves and not for rabbits and horses; later on becoming nonpathogenic for all of them? During the process of reversion is it not possible that the organism could become pathogenic for guinea pigs as I have observed, and further during the process of evolution could become pathogenic for rabbits as Kraus and Hormaeche have observed, and still further on could become pathogenic for guinea pigs, rabbits and calves as the observation of Medlar and Sasano? We can safely rule out spontaneous tuberculosis because the work reported by the various observers has been well controlled in eliminating spontaneous tuberculosis.

With your permission, I would like to speak of the Lübeck disaster. You will remember that of some 248 babies vaccinated by Calmette's method, 78 died of tuberculosis. The partisans of this type of vaccination immediately concluded that contamination with some virulent human type must be responsible for the deaths. According to them my positive result was due to contamination as was everyone's who has obtained virulent cultures from BCG. It is curious that only the tubercle bacilli can contaminate each other. I believe that such an accusation is a direct insult to the intelligence of an investigator. I was very fortunate last August to spend a day at Lübeck to investigate the possibility of contamination. Professor Deycke received me very cordially and explained what took place at the laboratory from the time he received the cultures from the Pasteur Institute until the disaster. The BCG was cultivated in a separate room which had no connection with the room containing the incubator in which other tubercle bacilli were cultivated. Furthermore, there were no other types of tubercle bacilli in the laboratory when the BCG culture was received, for the reason that a short time before its arrival an accident which occurred in the laboratory destroyed all of the cultures. After Professor Deycke received the culture from the Pasteur Institute he cultivated it on egg media. Several months after the arrival of the culture he received a human type of tubercle bacilli from the Kiel laboratory and it was cultivated in another room and not in the one in which the BCG was kept. Another point which strengthens the belief that no contamination had taken place is that the Kiel culture was cultivated on fluid media and BCG on solid egg media. The bacteriologic study made at the Koch Institute is not very conclusive. Bruno Lange, who made the investigation, believes that

the virulent element in the BCG culture was, in all probability, a contamination with the human. He based his conclusion on animal inoculations and as I have already stated this is not an adequate method for differentiation. This author states that the BCG received from the Pasteur Institute at different times varied in its pathogenicity. Such an observation made by him strengthens the belief that the organism is not stable.

The statistical exposition offered by Ludwig Lange also speaks against the possibility of contamination. This author divided the vaccinations into four groups and the occurrence of death in these four groups varies so much that it speaks very clearly against such contamination. If we suspect that the culture was contaminated at the beginning, then a more uniform death rate among the vaccinated babies should be expected. It is inconceivable that the laboratory assistant should mix the BCG culture with a virulent one every time he prepared the vaccine and carry on this procedure over a period of twenty days.

I brought with me from Lübeck, two cultures isolated from babies who had died following vaccination and also the original culture from which the vaccine was prepared. My six months' observation for the present leads me to believe that reversion of the virulence has taken place. I do not believe that the vaccine used for the babies was contaminated with human type tubercle bacillus. The Lübeck disaster teaches us one very important point, that the vaccination is not fool-proof. Unquestionably, there are a good many other cases on record where BCG has proved fatal, but in all, the fault has been attributed to contamination and that is why we do not hear about them. The deaths of the Lübeck children happened under such conditions that the cases were brought to the attention of the public health authorities.

Now a word or two about the statistics. Impartial observers naturally will judge the value of this method of vaccination by the statistics presented. So far it seems that no reliable statistics are even in sight. Let us refer to Calmette's statistics. In France alone, hundreds of thousands of babies have been vaccinated by this method, but it is unfortunate that out of this wholesale vaccination we find records of only 6,820 babies, and I may state that they have not been very carefully observed. Most of these babies have been vaccinated by feeding immediately after birth. It has been shown by many investigators that only approximately six per cent. develop skin hypersensitiveness. Now if we believe that skin hypersensitiveness has something to do with or is closely related to immunity, then the method appears to be efficient only in six per cent. of the children. Calmette, presenting the follow-up of 6,820 babies, does not mention how many react to tuberculin. He claims that the general mortality has been reduced and mortality from tuberculosis in this vaccinated group to be 3.4 per cent. against nonvaccinated 25 per cent. I would like to call attention to the criticism of Calmette's statistics by such competent men as Greenwood, Rosenfeld, Götzl and others, who after analyzing them concluded that they are valueless.

But we must remember that none of these vaccinated babies can be compared with the controls because they have been selected. Naturally, only the intelligent parents will submit to vaccination. The ignorant will not allow any such experiment. The vaccinated babies have also been isolated from four to six weeks thus preventing an exogenous infection. Such an isolation allows time to develop a natural resistance against infection. On the other hand, the controls never have been isolated and as soon as they are born they will come in contact with infection from the parents long before they develop a normal resistance. During the first few months they become infected and many succumb to disease.

This is very clearly indicated in the report by van den Bergh. He made a careful study of two groups of expectant mothers, one group which had tuberculosis and was known to the dispensary. They were instructed as to the danger of infection and told what precautions to take after the birth of the baby. The second group consisted of expectant mothers who were not known to the dispensary, therefore, they were not aware of the danger that they might be to the babies. In the first group the mortality from tuberculosis was very low, while in the second group the mortality was rather high. It seems, therefore, that sociological measures play a very important part in any preventive campaign.

At present there are no statistics showing that the controls have been submitted to the identical régime of education and isolation as the vaccinated babies. Under such conditions we cannot correlate the two groups.

Today, I want to go on record as one against the use of living virus as a vaccine, and especially in this particular case where the organism has been attenuated. There is not an iota of scientific evidence to show that the babies vaccinated with BCG will not in time develop clinical tuberculosis. No living organism is stable; today, it may be nonvirulent but after passing through a suitable environment it may regain its virulence and in time become a menace to the person who has been vaccinated. A low level of acquired resistance obtained by the implantation of living microörganisms is all we can expect. Shall we pay the price for such a resistance by infecting the whole human race?

MISCELLANY

THE NORTHEASTERN COUNTY MEDICAL SOCIETY

The January meeting of the Northeastern County Medical Society was held at Brightlook Hospital, St. Johnsbury, Thursday, January 28. The afternoon session was turned over to the guest surgeon Dr. C. C. Simmons of Boston. Ten or twelve cancer cases were shown. This clinic was followed with operative work.

Following the dinner at six-thirty, the party adjourned to the residence of Dr. W. B. Fitch where the paper of the evening was given by Dr. Simmons, his subject being "Cancer: Symptoms, Diagnosis and Various Forms of Treatment." The paper was followed by a discussion by the members present.

THE WINDHAM COUNTY MEDICAL SOCIETY

A regular meeting of the Windham County Medical Society was held in Brattleboro on Thursday, February 18. Luncheon was served in the Hotel Brooks at 1:15. Immediately following the luncheon the meeting was called to order by Dr. John Stewart, Vice-President of the Society, who presided in the absence of the President, Dr. C. S. Leach. After the reading of the minutes of the annual meeting, on motion it was voted to dispense with further business. Dr. Channing C. Simmons of Boston was then introduced by Chairman Stewart. Dr. Simmons talked to us on the subject of cancer, discussing the etiology, morphology and treatment.

This discussion we found very instructive. Following his talk, Dr. Simmons very kindly consented to answer any questions. One patient was presented, who offered himself as a subject for a short clinical discussion of epithelioma.

There were 15 members and two guests present.

ALLEN S. SUTHERLAND, *Secretary.*

VERMONT DEPARTMENT OF PUBLIC HEALTH
JANUARY, 1932

The incidence of communicable diseases reported during January is as follows: Chicken pox 298, diphtheria 1, German measles 11, measles 1467, mumps 449, scarlet fever 44, smallpox 63, typhoid 1, whooping cough 280 and tuberculosis 15.

The following examinations were made in the Laboratory of Hygiene, totalling 1,411:

Examinations

For diphtheria bacilli	76
For Widal reaction of typhoid fever	22
For malarial parasites	0
For tubercle bacilli	255
For evidence of syphilis	440
For gonococci in pus	147
Of water, chemical and bacteriological	42
Of water, bacteriological	194
Of milk, market	104
Of milk, submitted for chemical only	9
Of milk, submitted for microscopical only	4
Of foods	8
Of drugs	0
For the courts, autopsies	2
For the courts, miscellaneous	49
Miscellaneous	59

To the Division of Venereal Diseases 25 cases of gonorrhea and 28 cases of syphilis were reported. Three hundred and twenty-two Wassermann outfits and 168 slides for smears were distributed.

The nurses in the Poliomyelitis After-care Division made 96 home visits, called on seven doctors, fitted 17 pieces of new apparatus, altered 7 pieces of new apparatus, and made 24 orthopedic corrections to shoes.

The State Advisory Nurse of the Maternity and Infancy Division visited six towns, giving lectures to high school girls and meeting Red Cross nurses, making arrangements for toxin-antitoxin clinics and meeting with Parent-Teachers Associations.

RECENT DEATHS

Dr. John M. Allen, gynecologist and surgeon, died in St. Johnsbury, Vermont, February 9, 1932.

Dr. Allen had been in the practice of his profession in St. Johnsbury forty years. A native of the town, he was numbered among her foremost citizens and was one of the leading surgeons of Vermont.

Dr. Allen graduated from the Medical Department of the University of Vermont in 1890, and from Bellevue Hospital Medical College, New York, in 1891. He was the first interne to serve at the Mary Fletcher Hospital, Burlington, Vermont. Beginning in 1903 he devoted his whole time to surgery, having previously taken postgraduate courses in the United States and abroad. During the period of America's participation in the World War, he served on the United States Board of Examiners and likewise the Draft Board. He was a member of the Vermont State Medical Society, American Medical Association, a Fellow of the American College of Surgeons, and also the only member from St. Johnsbury in the New England Surgical Association.

Several years ago Dr. Allen became interested in the medical missionary work of Sir Wilfred Grenfell in Labrador and sent to him some blooded cattle from his own stock, which Sir Wilfred named "the Allen herd".

In the death of John M. Allen, M.D., Vermont has lost one of her pioneer surgeons, whose work covered a large area of northern Vermont and New Hampshire.

Dr. Charlotte Fairbanks, for twenty-two years a physician and surgeon at St. Johnsbury, Vermont, died at Framingham, Massachusetts, February 13, 1932. She was born in St. Johnsbury, December 11, 1871, the daughter of Professor Henry Fairbanks. She was graduated from Smith College with high honors in the class of 1894, receiving a Ph.D. de-

gree from Yale two years later and a fellowship at Bryn Mawr. She later taught chemistry at Wellesley College for a couple of years and then entered the Woman's Medical College at Philadelphia where she received her M.D. degree in 1902. She served as an interne in the Woman's Hospital at Philadelphia where she also practiced medicine. In 1908 she returned to St. Johnsbury. During the World War she was a surgeon of the Woman's Hospital Unit No. 1, and was stationed at Blearancourt in the Marne Valley. At the close of the war she was presented with a gold medal from the mayor of the city in recognition of her work in surgery. After the close of the war she resumed her practice in St. Johnsbury. She was a member of the American College of Surgeons, and until her last sickness was a member of the Vermont State Medical Society and the American Medical Association.

A MILD EPIDEMIC OF SMALLPOX IN MIDDLEBURY

On February 13 a mild epidemic of smallpox was reported from Middlebury, Vermont. It was announced by President Paul D. Moody that vaccination would be required of all college students remaining there. One dormitory only was exposed to the disease at the time of the report, but the precautionary measure was taken following the outbreak of fourteen cases in a rural school two miles east of Middlebury. Dr. Stanton S. Eddy, Health Officer, stated that there with no cause for alarm.

REDUCTION IN MORTALITY RATE IN ILLINOIS

The outstanding health achievements in Illinois since 1928 include the following notable records:

The general death rate from all causes has been the lowest in the history of the State, and lower than that in any other State within the population range of Illinois. The death rate per 1,000 people in 1930 and 1929 was 10.9 and 11.7, respectively, against 12.2 in 1928. In 1930 there were 6,602 fewer deaths than in 1928. The 1931 rate up to September was about the same as that in 1930.

Mortality from tuberculosis has been by far the lowest ever recorded. Deaths per 100,000 population numbered only 63 and 70 for 1930 and 1929, respectively, against 74 in 1928, the previous low record year. In 1930 tuberculosis caused 651 fewer deaths than in 1928. For the first time in 40 years the number of deaths from tuberculosis fell below 5,000 in Illinois. In 1930 there were 4,790 fatalities charged against this disease.

Infant life was the safest ever experienced in this State. The death rate of infants was 56 and 62 per 1,000 births for 1930 and 1929, respectively, against a rate of 66 in 1928 and 64 in 1927, the previous low record years.

A new low death rate from typhoid fever was established. This disease caused only 2.0 and 1.4 deaths per 100,000 in 1930 and 1929, respectively. The rate was 2.2 in 1928, the previous low record year.

Mortality from diarrheal diseases fell to an unprecedented low level. In 1930 the number of deaths charged against diarrheal diseases was 1,531 against 1,757 in 1928 and 3,532 in 1920.

The death rate from diphtheria in down-state Illinois for 1930 was the lowest in more than 50 years. Only 134 deaths were charged against diphtheria in 1930 against 190 in 1928 and 169 in 1925, the previous low record year. The death rate per 100,000 from diphtheria in down-state Illinois for 1930 was 3.2 against 4.5 in 1928 and 4.1 in 1925. Not a death from diphtheria occurred in any one of 52 counties during 1930.

These remarkably favorable health records, which indicate splendid general health, have resulted from public health work promoted and done by the State Department of Public Health.—*United States Daily.*

COULD NAPOLEON DO MORE?

There is a little town in Louisiana named for the French leader — Napoleonville. Some of the spirit of dauntlessness of the great Corsican seems to have lodged there. Napoleonville has a health unit — The Assumption Parish Health Unit. The Director of the Unit is a man of fervent purpose, Dr. P. M. Payne, who also is chairman of the local follow-up committee of the White House Conference.

Under the stimulus of its director last year this health unit, of a parish of only 16,000 people, accomplished these things:

Vaccinated 1,855 children against smallpox.
Immunized 393 children against diphtheria.
Gave 3,000 children health examinations.
Sponsored 2,200 dental examinations of school children.

It arranged a parish-wide meeting at the Court House to create interest in a "Tonsillectomy Clinic" which resulted in 100 tonsil and adenoid operations. The children were taken to New Orleans, 78 miles away, twenty-five at a time accompanied by a nurse.

Besides these things there is weekly instruction of the colored midwives. A school garden at one of the colored schools is encouraged and is proving a means toward better nutrition. Several hundred cows have been tuberculin tested and milk production and handling much improved.

Simpler things these than conquering nations, less spectacular than leading armies over mountain passes—but any less important? From Louisiana this unpretentious general writes: "I am doing all I can to foster child care in as many phases as possible. One almost despairs when the entire scope of the work is considered."—*White House Conference Happenings.*

THE NEW HAMPSHIRE MEDICAL SOCIETY

THE ADMINISTRATIVE AND ECONOMIC ASPECTS OF THE RURAL HOSPITAL AS AN AGENCY OF SOCIAL SERVICE*

BY JAMES A. HAMILTON, B.S.,† HANOVER, N. H.

A—Introduction

1. *Nation-Wide Interest in Hospital Costs*

PERHAPS no problem connected with the care of the sick has received so much public attention as the alleged high cost of hospital and medical service. Indeed the cost seems to cause more public agitation than the question whether people are getting what they pay for.

Those of us, who are at all connected with such service know that the cost of medical care should not be reckoned so much by the day, as by the result, and that irrespective of the value received, the charges for modern medical care have not increased in proportion to what it costs to perform such service.

The basic trouble is not medical, but economic. The cause of failure to supply the needs of the middle class is due to no insolvable mystery, nor do I believe that its solution lies in some deep, basic change.

2. *Rural Interest*

Prejudiced by my contact with a rural hospital I find it very difficult not to be cynical when I learn that great metropolitan institutions spend large sums of money in an endeavor to lower the price of private rooms to six dollars a day for the patient of moderate means, when I know, in my own institution, of over one hundred and fifty beds, there are only four rooms priced at six dollars a day, and these are the highest; when it is stated that concessions on the part of the staffs of these institutions are made to limit their fees and I compare these fees with the ones in my locality and find that our top figures compare very favorably with their minimum allowances; when I study the financial status of the people applying for our beds and realize that practically all of our clientele fall within the category of people of moderate means.

Further consideration, however, suggests a comparable, rural-hospital problem which may eventually become a more serious one to us than that faced by metropolitan institutions. Should we allow ourselves to get into a similar situation, we could not correct it so easily or quickly because the financial resources are not at the command of our institutions as they are of those at the great metropolitan centers.

3. *Parties Concerned*

The ones immediately affected, of course, are the patients, the hospitals and the doctors. I have been associated with professional matters long enough to appreciate that the opinion of the doctor has a great deal of influence with the public in general. The average layman is always willing to listen to the doctor about any phases of medical matters. The same thing is true in connection with public officials. Equally so, the doctor is bound to be the dominant influence in terms of hospital administration. Consequently, I am very glad of the opportunity to be able to present some review of this rural situation to you. I approach it as a layman and undoubtedly I will not add to the facts collected by the existing nation-wide investigation, but trust that these few minutes of concentration on the subject of the parties concerned will be of some value.

At the outset, I must disclaim the foolish notion that it is possible for anyone, devoid of personal experience, to provide useful suggestions for the detailed conduct of the group referred to above. There is no substitute for first-hand practice, but any useful theory capable of immediate application must depend upon the direct knowledge of the irrelevant reactions of the factors composing the group which affect such conduct. Some divorcement is bound to be beneficial to the conception.

Also I trust you will pardon reference to my own hospital, occasionally, because I must call upon the facts which it makes available.

We are faced with a shifting situation in the immediate future. Rigid maxims, rule-of-thumb routine, and cast-iron particular doctrines may cause the ruin of some hospitals.

B—The Problem

1. *Change in Attitude of the Public*

Not so long ago, the rural hospitals in our country were in the homes of the people. Practically all of the medical cases were treated and most of the surgical operations were performed under home conditions. Children were seldom taken to the hospital, and obstetric practice in the hospital was neither desired nor encouraged. I still get a great thrill, after a day's fishing in the north country, to hear the physicians of that section discuss the days when they drove many miles in a sleigh and operated on the kitchen table.

*Read at the annual meeting of the New Hampshire Medical Society, May 20, 1931, at Manchester, N. H.

†Hamilton—President, New England Hospital Association. For record and address of author see "This Week's Issue," page 480.

At that time, to the general mind, the hospital was a place to which one went to die, or at best, only when he was in an alarming, if not critical condition; a place to be avoided if possible. This is still predominantly in the minds of some of the rural folks who quite often must be urged to go to a hospital when seriously ill.

For the most part, however, the *hospital habit* has been acquired. People have learned that they can be better cared for in the hospital than at home and that their prospects for recovery are better and more immediate and even the expense is less, as a general thing. The extensive use of hospitals is a comparatively recent social phenomenon. Demand has increased due to this habit of mind.

2. *Changes in Medical Science*

Correspondingly, specialties have developed and the physician instead of depending on his own knowledge of medicine or physical diagnosis and symptoms, has grown more and more to depend on the rapidly developing accessories to diagnosis, on the x-ray, bacteriologic and pathologic laboratory and on instruments of precision, all of which cost too much for each physician to buy for himself, but which can be purchased for the common good of the patient, when admitted to the hospital.

For the care of the sick, other responsibilities were imposed on our hospitals. Because of these added facilities and the opportunities which the hospitals afforded, they became educational centers for the training of medical graduates, internes, and allied professions, of nurses, social workers and dietitians. They became centers of medical research, where both clinical and laboratory material were at all times available. To properly conduct these added activities, the cost of hospital operation has appreciably increased. Naturally the investment mounted until the seven thousand hospitals in the United States now represent in building and equipment, an investment exceeding that involved in most of the more important manufacturing industries of the country. Considered on this basis, the hospital has become a place of business and its business is medical care.

The average investment for general hospitals grew from a thousand dollars to approximately five thousand dollars per bed. New Hampshire, belonging to the North Atlantic States shows a per capita investment in local general hospitals of twenty-five dollars.

3. *The Gift From the Rich to Poor Conception.*

There also is continued the conception that professional and hospital care is necessarily a charitable gift from the rich to the poor. Physicians and hospitals are inclined to boast of their amount of free work. Some of them apologized, almost, for their pay services. It was one of the traditional relics of a custom among physicians to do a great deal of free work, with the consequent need of charging higher fees for patients who did pay.

The intrusion of charity into the problem makes it worth while to inquire whether the above method, in addition to failing the middle classes has, in some respects, inflicted upon them unjust and excessive burdens through the economic results of making *charity instead of service* the primary motive.

4. *Statement of the Problem.*

Consequently the hospital superintendent is not so much concerned with the operating cost per hospital day. It has an artificial value influenced largely by a great many other factors. He is vitally concerned, however, in the gross amount of his operating disbursements and the ways and means of providing a hospital income to meet them. A constant struggle takes place to make income balance expense without lowering the standards.

In our own institution the free work increased to a point where eighty per cent. of our patients were paying less than cost and twenty-three per cent. of the total service rendered did not cost the receivers, directly, one penny. It had increased until the unpaid work at regular rates (which is, of course, less than the cost) amounted to about thirty thousand dollars a year against fifteen thousand dollars income for this purpose.

The constant urge is that greater facilities be provided. The lack of hospital and diagnostic facilities in many of the rural districts is presented as both a cause and effect of the increasing migration of physicians from country to city.

With the public demand increasing tremendously, with the investment in hospital buildings and equipment increasing and with the continued emphasis upon charitable work, the rural hospital is facing a problem. Can the general private rural hospital survive economically or must it be absorbed by governmental bodies in order to preserve its function as an ageney of social service?

Together with this fear of survival on the part of the hospital, there is a great deal of dissatisfaction among the medical personnel because of low income, and the magazines and papers are filled with loose statements as to how the patient is being gouged (the fact of which he is convinced, when he gets his bill for an illness).

C—Answer

The answer lies in the ability of the rural hospital to adjust itself to its clientele (namely patients of moderate means).

Status of hospital and physician.

First of all it might be well to appreciate the scope of our power economically to affect this situation. The average of expenses for medical care, as found by the Metropolitan Life Insurance Company during a recent investiga-

tion, was a rate of $140.00 per family per year; 42.7% of this amount was traced to physicians, and 12.5% went to the hospital. Over 55% then is controllable by the combined forces.

1. *Inconsiderate Hospitalization of Patients.*

The first suggestion, for which certain conscientious physicians are responsible is that the patient should avoid unnecessary hospitalization. They say the doctors need to be educated about sending certain patients to the hospital. It is so much easier for the doctor to see his patients in a hospital than to go all over the countryside to call on them, that it is a great temptation to order the patient to the hospital without investigating the financial problems involved. We should not overlook the fact that where a physician has to cover several towns, this may be imperative, and to the community's best interest, but when it is abused, it naturally increases the difficulty.

Or it may be that there is a tendency for the doctor whose patience and financial resources have been exhausted to rid himself of a difficult patient by sending him to the hospital.

Or perhaps there is a great temptation for the doctor who is the main and only support of a rural hospital, already in existence, to keep it well occupied.

Such abuses are just as erroneous economically as the salesman who oversells his customers. Saving unnecessary expense for the patient will greatly enhance his good-will and his position to share the general load.

2. *Limit the Free Work.*

In many hospitals, the officials are continually endeavoring to learn the extent of their obligation to the community from the standpoint of free service. They are searching for some measure that will enable them to satisfy their institutional conscience as to whether they are meeting this obligation fully and to learn whether an excessive demand is being made upon the institution by those unable to pay. To differentiate the worthy and the unworthy is especially difficult in the rural community, where the estimating measures of income and wealth are so indefinite and decision must be made upon guesses or gossip. As the scope of the hospital widens, this becomes more true.

The poor are fatalists when illness threatens and they persist in this attitude when hospital care becomes an actuality. They are always confident that in some way, and at all times, in their necessity, the hospital will provide. The hospital would not like to lose this fine old tradition. They will always continue to take care of patients who come to them so long as there is an available bed, regardless of their ability to meet the expense.

The coöperation of the physicians and the hospital-minded laymen together with a more systematic routine on the part of the hospital administrator, will do much to apply corrective measures; namely to limit the free work to those deserving it.

3. *The Assumption of a Proper Share of the Burdens by Other Existing Agencies*

It is unfair and unethical for outside agencies to expect any hospital to care for its cases below cost, yet all hospital administrators are faced with such an appeal. Figures showing its size would be very enlightening. This assumption of responsibility in the care of the poor without proper reimbursement from existing agencies constitutes a great burden on private hospitals. Why hospitals should be permitted to charge ward rates only, which are lower than cost, for compensation and other insurance cases, I am unable to understand. Or why towns and county authorities will not properly assume at least a partial share of the amount for which they should be responsible, I do not understand.

It is only fair to say, however, that much of the blame for this must be put upon hospital authorities and the physicians connected with such institutions. Sufficiently concentrated appeals to the legislative ruling bodies have not been made to correct this unfair relationship with insurance companies. The rural hospital itself has been lax in presenting the facts of its free work to the governmental bodies of towns and counties. When it is done, it usually has resulted in full coöperation by those bodies, thereby leading to reasonable appropriations. For towns and villages are finding it much more economical to pay for the services of their indigent citizens in a neighboring hospital than to furnish facilities themselves.

4. *The Securing of Greater Endowment*

Would the problem be solved by securing a greater endowment for the existing institutions? It is a tribute to the public spirit and open-handedness of American people that they recognize the hospital as a public necessity. Of the three billion dollars invested in hospitals, ninety per cent. of this amount has been contributed about equally by private gifts or from public funds. Consequently the endowment of hospital service for patients of moderate means has been secured, in a few cases, principally in the metropolitan centers. Big philanthropies have been very much interested in this work and it is said to be the best appeal to present-day financial sources; but such gifts, primarily, are applied to the reduction of the daily charge below the proper cost. Consider that the private hospitals of this state operated at seventy-five per cent. capacity and that only fifty per cent. of the service was at less than cost and that there was a daily average of a deficit of two dollars per patient to make up. Then two hundred and twenty-seven thousand patient days would constantly be in need of such assistance, and a contribution of two dollars a day for the

relief of each of them would require an income of four hundred and fifty-five thousand dollars a year, which capitalized at five per cent., is equivalent to an endowment fund of nine million, eighty thousand dollars. Can the hospitals of New Hampshire reasonably expect to acquire such a sum for this purpose which is more than the present total capital investment in all the general hospitals in the state? My own hospital would have to double the endowments it has acquired over a period of thirty-seven years. It is clearly evident that charitable gifts will not suffice.

5. *Having the Patient Pay a Larger Share of His Own Way*

In the long run, the only source of income is the general public, which includes the patient. It is fundamentally sound that the largest portion of the total cost should be met through patients' fees and the smallest portion through compulsory or voluntary contribution. Helpful as the other suggested methods may be in solving the rural hospital problem, they are hardly adequate unless the patient pays a larger portion of his own expense. This may be done by:—

(a) Keeping the cost of service within his financial resources.
(b) Furnishing a type of service best suited for his needs.
(c) Educating the patient to aid himself.

Allow me to discuss (a) and (b) together and to further save time, by summarizing some of the arguments, without very much supporting illustration. The lack of emphasis will not indicate lack of importance, but rather show that you are sufficiently familiar with much of the current data so that it does not need restating.

To do these things, there must be (1) *economical management of hospitals* in the purchase and use of hospital supplies, equipment and facilities. Hospital management is not infallible and, without question, has its shortcomings. Proper judgment of it could only be exercised by local analysis. However from necessity, all hospital administrators have been doing everything possible to make hospital care of a better grade, at the same time less expensive. That he or she has succeeded will be readily acknowledged if a comparison were made between hospital operation and the operation of any other legitimate business. In my own hospital, similar to many others in this state, I am sure, the average daily ward rate shows in a span of ten years, an increase of but twelve per cent., the average daily private room rate, an increase of thirty-three per cent., when during the same period nearly everything contributing to the cost of living has increased from two to three hundred per cent.

2. *The furnishing of satisfactory economical nursing service.* This can only be accomplished by some of the hospitals concentrating upon the training of nurses. The important question is the "special" nurse. We understand that the "special" nurse is charging a perfectly fair fee for her services, and also that there is a definite economic waste in the prevailing system of full time "special" nurses. For the rural hospital, I do not feel that group nursing will aid very much in the solution of this problem. Our patients can best be served by managing to get along with "floor" nursing service, usually supplied by undergraduate nurses, and that "specials" be employed only when absolutely necessary. Attending physicians are the most potent agency for educating the patient to use the "floor" nursing service provided by the hospital at all times, when special nursing service is unnecessary.

3. *Lowering the Doctors' Fees.* I have mentioned, before, the introduction of a fixed lower scale of professional fees as a partial solution of this problem. I do not feel that this is necessary in our rural communities, for as I have said, a comparison of these minimum rates places our own in a very favorable light, and undoubtedly there is a conscious attempt to adjust the fees to the ability of the patient to pay with due reference to the service rendered.

4. *Better planning of our Hospitalization Facilities to meet these needs.* New Hampshire, as you know, is very fortunate in its hospitals and is one of the few states where every county has at least one hospital. Throughout the country, the states show a range of from one bed to one hundred and fifty-four persons in Wisconsin and one bed to seven hundred and forty-nine persons in South Carolina. New Hampshire has fifty hospitals with 4,668 beds. If you exclude the governmental institutions, there are thirty-six hospitals with 1,662 beds or one bed to every 274 persons. However we find that this huge hospital investment is daily being used less than two-thirds of its capacity, namely 61.2%, while the average for the country as a whole is approximately 66%. We, of course, know the impossibility of utilizing capacity to one hundred per cent. because of provisions for emergency and professional necessity, but 61.2% is low. Yet the matter of adequate medical service in rural communities is still considered by some a problem. Adequacy is difficult to estimate because of variations in criteria.

To be sure this need is somewhat modified by the yearly improvements in roads and the increasing use of automobiles. Modern physicians can cover much more territory and treat more patients than they could twenty-five years ago. There seems to be little possibility of decreasing fixed charges by reducing the present capital of hospital investment. If the burden is to be lightened, it is through greater utilization. In-

creased utilization of facilities is one of the basic demands of hospital economy and efficiency.

It can be corrected (a) *by the proper location of hospitals according to the needs of the communities.* We should be very careful to get the best minds available to solve the question of localization rather than rely upon the erratic, emotional, haphazard methods now used. Decisions should not be based solely upon the desire of a physician to better himself or the occasional gift for capital investment. The operating cost is by far the bigger problem, both for the hospital and for the community as a whole. Procedure in organizing a new hospital results too often in raising funds for buildings and maintenance without a preliminary survey of the locality to determine whether a new hospital is necessary. Oftentimes the needs of the community would be better met by concentration of services on fairly large hospitals already existent. Certain types of mechanical equipment and specialized professional knowledge and skill can best be used from an economic point of view only when serving a fairly large number of patients. Then, too, convalescent homes might well be created with their lower cost of investment and operation, with its correspondingly lower rates to the patient and thus reserving the facilities in the general hospital for its acute patients. I am certain that many of our rural hospitals have been burdened with chronic cases which would be much better off in other types of institutions.

Then, (b) *greater utilization could be secured by better planning of the types of facilities* in accordance with the modern demand, namely, for a larger percentage of beds in small wards and semi-private rooms. Many buildings built in the old régime gave the patient very little choice between very large wards and single private rooms. True, the unit cost of operation to the hospital also increased with this new tendency, but I also feel that the money spent in revamping present buildings not only will result in greater utilization, but a correspondingly greater assumption of the cost of operation by the patient. Analysis of the experience of our own hospital bears out this fact. In a period of ten years, although the daily cost of hospital service increased 39.4%, the amount necessary to be raised from some outside source for each patient day only increased 11.4% because the daily income from the patient increased 61.5%.

5. *Can the Patient Pay?* Supposing that you do make these economies, and have available the proper type of service, is it possible for the average patient we serve to pay for his hospital bed, his extras, and his physician, out of his own individual income?

I would like to submit the following data, as a partial answer to that question for the ten-year period 1918-1929. Unfortunately in the collection of some of these statistics we must be content with facts throughout the state as a whole. Consequently, they need to be interpreted in view of the fact that out of a population of four hundred and fifty-eight thousand only one hundred and sixty thousand are in the section that is called rural.

The Statistics on Income—U. S. Treasury Department, 1928, shows the following:

	1918	1928	% of Increase
Average net income per return in N. H.	$3285.	$5138.	56.3
Average net income per return in U. S.	3599.	6196.	72.3

These figures should indicate the average ability to pay, of the patient who would usually select private room service. During this same period the average daily private room rate in my own institution changed from $3.00 to $4.00 per day, an increase of only 33.4%.

Let us take the lower range, the wage earner, not inclusive of salaried employees. *The Census of Manufacturing—Department of Commerce, 1929,* shows:

	1919	1927	% of Increase
Average income per wage earner in N. H.	$ 955.	$1113.	16.5
Average income per wage earner in U. S.	1261.	1283.	6.2

This type of patient would undoubtedly seek ward service. During the same period our average daily ward rate changed from $2.00 to $2.25 per day, an increase of 12.5%.

The best indicator of the average ability to pay is *Bank Deposits. The Report of the Comptroller of Currency* shows the following:

	1919	1929	% of Increase
Per capita individual deposit in N. H.	$373.76	$607.56	59.6
Per capita individual deposit in U. S.	284.88	399.99	40.7

The records for approximately the same period in my own institution show the *Average Total Hospital Charges Per Patient,* not including Doctor's Fees *but including fees for extra charges:*

	1920	1930	% of Change
Hospital Service	$45.08	$42.39	—6.3
Extra Charges	3.92	10.97	+179.8
Total Charges	$49.00	$53.36	+8.9

The reason, of course, is the decrease in the average length of the patient's stay.

In other words the following comparison gives us a partial answer to our query:

	Percentage of Increase	
	Rates	Ability to Pay
Ward Patients	12.5	16.5
Private Patients	33.4	56.3
Total Charges for Hospital Care	8.9	59.6

It has been estimated that during the year 1930 the total purchase for cigarettes will have been one billion dollars. It has been stated that if the average man and woman were to save the price of one package out of every three purchased, the total savings would run every Hospital in the United States for one year.

Granting that the patient can afford to pay, there still remains the problem of (c) *Educating him to aid himself*, by using his ability intelligently. This may be done:

1. By educating him to select facilities in keeping with his financial scale. Ignorance of the facilities available and prompted by a natural desire to have the best care usually results in unhappy selection. The attending physician, through his personal contact and greater familiarity with the financial condition of the patient, can properly guide this step.

2. By educating the patient to provide for sickness in his financial scheme of affairs. The patient of today is as unprepared financially to meet sickness as the patient of a decade ago. The sick day is the day long deferred, and when this day arrives no sum has been appropriated out of current savings to provide for this contingency; consequently the burden is imposed. Hospital care is expensive because we purchase it when we need it most, not always when we are prepared financially to pay for it.

Data collected clearly indicate that sickness is a hazard in life comparable to other hazards such as death and accident. The latter has been provided for in our scheme of things through insurance. The cost of medical care may likewise be furnished in the same way. Already accident insurance policies are laying more stress upon the provision for the cost of medical care, than they are for loss of time. Probably sickness insurance would long ago have claimed public attention if free hospital care were not so generally available. Perhaps the solution of this phase of our problem is a system of insurance.

C—Summary and Conclusion

1. The rural hospital is facing an acute economic problem, the seriousness of which is forecast by the present experiences of the metropolitan institutions in adjusting themselves to the care of patients of moderate means.

2. The traditional opposition to the discussion of the so-called commercial aspects of medical care should be forgotten in a frank discussion of the factors affecting this problem by those most vitally concerned.

3. The physicians, hospital managers and representatives of the general public should unite in an endeavor to make *master plans* whereby the rural communities of the state will get good medical care at a fair price by the best methods.

Business leaders, at the present time, through coöperation are attempting to arrive at a rational plan of national and international stabilization in the highly competitive field of industry.

There will be objections, of course, to any plan at first, but unless this planning is done intelligently, public opinion will force the governing agencies to take a greater responsibility for the medical care, as it has for the education of children in the public schools.

4. The type of services best fitted for our clientele should be furnished at a cost commensurate with its financial possibilities. A conscious effort should be made to educate the people to select the needed facilities more intelligently and provide for payment in such way as to bear a larger share of the cost of furnishing medical care.

5. In order that funds from other sources may be applied in the best manner to assist the physician in fulfilling his function in the community that he serves.

Discussion

Dr. W. P. Clough, New London: It has certainly been a pleasure to hear the splendid paper by Mr. Hamilton, presenting the economic problems of hospital management. As an agent of social service the small rural hospital has proved of great value. Our small hospital serves not only our immediate community but the adjoining towns of Wilmot, Sutton, Springfield and Sunapee. Many patients are willing to enter the small hospital right near home but would balk at the mention of the larger institution at a distance. We have at present twelve beds, employ three graduate nurses and have cared for one hundred and sixty-one patients this year. Because of the fact that my practice is spread over a large territory and there are few doctors in this section I have, within the last year, found it necessary to refuse to care for obstetric cases outside of the hospital except in case of emergency and this rule has worked to the advantage of both the patient and physician. The financial returns are of course inadequate to meet the running expenses of this hospital but a yearly contribution from the township, and the work of local organizations and generous summer people have made it possible to continue. Then, too, the town and

county officials are glad to coöperate with us in caring for their charges. When consultation seems advisable, it is comparatively easy to secure the services of a surgeon or specialist within a few hours. The numerous camp accidents, illnesses of a more or less serious nature that are bound to occur where there are several camps for boys and girls in the summer receive prompt attention and to have a local hospital has come to mean much in the life of the community.

DR. RALPH W. TUTTLE, Alton: I feel that this is an especially good paper. This matter of rural hospitals—they are like rural physicians, they are a necessity. Hospitals seem necessary as time goes on and the people in the rural communities are becoming more hospital-conscious than before. We used to have to urge our patients to go to the hospital; now they are ready to go because of the character of most of these institutions. The rural hospital, in order to properly fulfill its function, must be located so that it will cover enough territory to take in the population which can, in a way, support the hospital. It should be supported so far as possible by the fees paid by the patients themselves. They are the people who are deriving the benefit and should pay for it. When we go to a store we expect to pay for our own groceries, and if they go to a hospital they should pay for their own treatment. To pay for the hospital service is one of the problems, which it is hard for people to meet. In a great many centers there are so many free clinics that they get the idea that medicine should be like religion, free. It does cost money to run these hospitals and they cannot be run properly without proper financing to provide the equipment and personnel to take care of these people properly. If the hospitals do not meet their expenses, the people in these communities are asking why they do not carry on. They are going to demand that prices go down; perhaps the states are going to subsidize these hospitals, and when you do that, they will say—"the government is going to pay, why should I pay?" That is true of the person who has plenty of means as well as the person who has little. If the state should take these things over, it would be about the worst thing that could happen in this country. We have enough hospitals in my section but none in my town. My town isn't big enough, but it is only eleven miles to Wolfeboro, twenty-two miles to Laconia, eighteen to Rochester, thirty to Concord and an hour to Manchester. These trips can be made in the winter as well as in the summer because our roads in New Hampshire are broken early and we get as much traffic in the winter as in the summer. Hospitals are not so necessary as they used to be in the rural communities because we are able to cover so much more territory than we used to. I am covering territory which I couldn't cover with my horse, due to the fact that transportation conditions are better. A short time before the roads were broken out so quickly, one man said to me "You have bitten off a little more with your automobile than you could chew with your horse haven't you?" We don't have to do any chewing. In the winter we have automobiles and can get our patients to the hospitals without delay; but the whole point is to make them realize that they must pay for the service rendered.

DR. J. J. COBB, Berlin: The rural hospital is in a critical condition. In communities where the great majority of the patients are of the laboring class who do not have much money in reserve, and particularly in times like these, they cannot afford to go to the hospital. I believe that hospital prices are too high at the present, but there is no likelihood, perhaps, of their being any lower than they are today. If the small hospitals in the poorer communities are to continue, we will have to go back to the old times and give the people of the community who support the hospital the benefit of that class of nurses which they are willing to accept. They are willing to pay the undergraduate type and at the same time help the community.

DR. EDWARD O. OTIS, Exeter: There is one thing I would like to say in regard to this: I see no reason why a physician should be called upon to give his services free to that hospital which is supported in any degree by the town or by public appropriation. He is called upon to pay his proportion of the taxes from which comes the endowment of the hospital and to be called upon a second time to give his services free is a very unfair proposition. I think the time is coming when physicians should ask for their just due and not give their services gratis to the hospital. I think altogether too much free service is being demanded of the physician and they have been too willing to give their services to the hospitals.

MR. HAMILTON: I don't believe I can say anything more. I feel in this State that much better work can be done if those concerned would concentrate upon our present facilities rather than provide others because of an emotional reaction. We can protect ourselves, but if we don't do that, we are bound to be faced by some difficulties.

MISCELLANY

RESIGNED

Elphege A. Beaudet, Livermore, California, U. S. V. B. Hospital 102.

NEW ENGLAND MEDICAL COUNCIL

Harvard Club, Boston, Mass.
December 1, 1931

THE meeting was called to order at 10:15 by Dr. Blumer, President. The report of the minutes of the last meeting of the Council having been printed they were approved without being read.

The Committee appointed to consider the proceedings of the previous meeting and report thereon not being present, the report was deferred.

The following paper was presented by Dr. Stephen Rushmore.

THE MEDICAL PRACTICE ACT

BY STEPHEN RUSHMORE, M.D.*

THE thesis I propose for discussion today, and which I hope to maintain successfully, is that the medical practice act of Massachusetts, as it now stands, represents an immaturity of conception of what a medical practice act should be, together with an ignoring of the medical practice situation as it exists, and an inadequacy not to say feebleness in dealing with that situation, which are not in accord with the generally accepted ideas of enlightened legislation often attributed to this Commonwealth.

The background of our consideration will be that contribution to the history of thought in which the 19th century had such an important part, namely, the idea that all things grow. In biology known as the theory of evolution, it is a conception that has permeated every field of thought, and in medical legislation has brought increasingly widespread clarification of the aim of statutory enactment.

The history of the medical practice act is the history of the development of ideas concerning the nature of the practice of medicine and the regulation of such practice. It extends far beyond the scope of what I have in mind to present in these few minutes, but it may help us in dealing with the concrete problems with which we are confronted in our daily work if we can see them in relation to some ideas and movements of other times and other places.

A distinguished historian has recently called attention to a marked defect in contemporary life, illustrating it by reference to the moving pictures. As there the "close up" interrupts the story and is quite out of proportion, so the "close ups" by which we are beset in nearly every other activity of life, have made more difficult and more necessary a true perspective.

That ancient Greek who has been characterized as seeing life steadily and seeing it whole, was surrounded by "little people" with provincial views; and beyond him in more dim antiquity, the ironic reply of Job to his friends "No doubt but ye are the people and wisdom shall die with you", implied the more comprehensive view on his part and his confidence that the imminent catastrophe which he foretold would be more disastrous to his friends than to wisdom. It has been said that the study of history frees us from the temporary and the transient and compels us to fasten on abiding issues. It is to some of the more abiding issues involved in the medical practice act that I would direct your attention.

The medical practice act has as its object the regulation of the practice of medicine, whether in the modestly tentative fashion in the early days of the colonies in Virginia and in Massachusetts, or in the rather comprehensive ways set forth in laws recently passed or amended in some of the States.

Of Virginia in 1639 we read: "It appears that the charges of physicians and surgeons are so excessive that the hearts of divers masters were hardened rather to suffer their servants to perish for want of fit means and applications than by seeking relief to fall into the hands of griping and avaricious men; it be apprehended by such masters, who were more swayed by politick respects than Xian duty or charity, that it was the more painfull and saving way to stand to the hazard of their servants than to entertain the certain charge of a physitian or chirurgern whose demands for the most part exceed the purchase of the patient." Here it seems to have been the "griping and avaricious men" that needed control.

Other factors were apparently at work outside the colony of Virginia and ten years later the General Court of Massachusetts voted as follows: "Forasmuch as the lawe of God (Exod. 20:13) allowes no man to touch the life or limme of any pson except in a judicyall way, bee it hereby ordered and decreed that no pson or psons whatsoeuer that are imployed about the bodyes, of men, woemen, and children for preservation of life or health, as phisitians, chirurgians, midwives, or others, shall presume to exercise or putt forth any act contrary to the knowne rules of arte, nor exercise any force, vio-

*Rushmore—Secretary, Massachusetts Board of Registration in Medicine. For record and address of author see "This Week's Issue," page 480.

lence, or cruelty vpon or towards the bodyes of any, whether young or old,—no, not in the most difficult and desperate cases—wthout the advice and consent of such as are skilfull in the same arte, if such may be had, or at least of the wisest and gravest then present, and consent of the patient or patients, (if they be mentis compotes,) much lesse contrary to such advice and consent, vpon such punishment as the nature of the fact may deserve; wch lawe is not intended to discourage any from a lawfull vse of their skill, but rather to encourage and direct them in the right vse thereof, and to inhibit and restrayne the presumptuous arrogance of such as through praefidence of their oune skill, or any other sinister respects, dare be bould to attempt to exercise any violence vpon or toward the bodyes of young or old, to the preiudice or hazard of the life or limme of men, woemen or children".

The activities of ignorant persons, of quacks and of charlatans in the practice of some real or alleged branch of the healing art brought about a widespread feeling that some regulation was necessary. It was not clear, however, in whose hands such regulation should be placed. The right of every individual to do as he pleased, so long as he did not interfere with the same right of any one else, may not have been the supreme law of the land, but it was a potent factor in nearly every activity in pioneer days. It gradually became clear that in some way qualified practitioners should participate in the control, and in Massachusetts after the revolution licensing of qualified practitioners was placed in the power of the Massachusetts Medical Society, a small body of limited membership, incorporated by act of the legislature. This power was not theirs exclusively, however, as the degree granting University at Cambridge had had a similar power for its graduates in medicine from colonial days. In some other states the power was lodged with various individuals or groups, usually members of the judiciary, who were also empowered to secure such assistance as they desired, presumably from qualified practitioners.

At first there was little control of practitioners who were not licensed, and the restriction by law placed later that such unlicensed practitioners could not collect their bills for professional services by the ordinary legal means brought little hardship to them, as they promptly collected in advance, a practice which the ethical licensed physician did not favor.

In the course of years, other medical societies were incorporated, and as things were then, bitter conflict arose, the outcome of which was that in 1859 all legislation regulating the practice of medicine was removed from the statute books in Massachusetts. The controversy between "regular" and "irregular" practitioners had been widespread extending over the whole country and the second quarter of the 19th century saw the undoing of much that had been accomplished in the previous seventy years. Massachusetts was one of the last to bow before the storm.

It would be interesting to trace the forces that were at work, influencing law as other activities in society, and culminating in what has been called the high water-mark of individualism in American life in the last quarter of the 19th century. The reaction against individualism had begun many years before, the elements of reaction are indeed always present, and in this last quarter of the century, roughly speaking, medical practice acts were adopted in nearly all the states, until in 1894 Fitz said of Massachusetts that as it had been one of the last to give up regulation, it would be one of the last to take it up again. At the time he wrote only Massachusetts and New Hampshire had not enacted laws of regulation.

In referring to a movement in this country which reached its culmination in the last part of the 19th century, and to the reaction against it, it is convenient to employ the terms individualism and socialism. They connote not mutually and reciprocally exclusive ultimate philosophies, but rather tendencies in human nature. Since just now socialism in this tendential sense is dominant, those of us who fear its encroachments like to think of these tendencies as permanent, and comfort ourselves with the reflection that the reaction toward individualism will inevitably come again. Socialism, in this sense, has been progressively but not uninterruptedly triumphant, in the past fifty years, and the medical practice acts are to be looked upon as embodying progress in social control.

The constant argument against such acts is and has been always "it invades personal liberty". Herbert Spencer, writing of one aspect of the restriction of the practice of medicine said: "If it is meant that to guard people against empirical treatment, the state should forbid all unlicensed persons from prescribing, then the reply is, that to do so is directly to violate the moral law. . . .

"Let it be conceded that very many of the poorer classes are injured by druggists' prescriptions and quack medicines. . . .

"Inconvenience, suffering and death are the penalties attached by nature to ignorance, as well as to incompetence—and are also the means of remedying these——All means which tend to put ignorance upon a par with wisdom, inevitably check the growth of wisdom. Acts of parliament to save silly people from the evils which putting faith in empirics may entail upon them, do this, and are therefore bad. Unpitying as it looks, it is best to let the foolish man suffer the appointed penalty of his foolishness. For

the pain—he must bear it, as well as he can; for the experience—he must treasure it up, and act more rationally in the future."

This intense individualism had found practical expression in America in pioneer conditions, and, reinforced by religious conviction, stubbornly resisted every form of social control. It is still present and manifests itself on many occasions when increase of social control is proposed. As has been suggested, under modification and restraint it may be regarded as a permanent element, to be reckoned with always.

In principle, however, an important victory has been won, and every state now has a medical practice act, which means that it is generally accepted that society may through governmental agency regulate the practice of medicine. There remains still much to be done in clarifying our conception of the practice of medicine, and our conception of the limits within which regulation by the state shall be exercised, so as not to hamper unduly, progress in science and practice, and finally our procedures for reaching the object of the reasonable regulation.

The method I have adopted in the discussion this morning is to note the general provisions which widespread present-day opinion regards as belonging to the medical practice act. With these I shall compare some of the provisions of the Medical Practice Act of Massachusetts, using the points enumerated as foci for discussion or comment.

In the first place, the medical practice act should be an act to regulate the practice of medicine. Then the practice of medicine should be defined. The regulation and its scope should be set forth, and the machinery of regulation, including personnel and general rules of procedure. There should be conferred authority, adequate to the thorough performance of the functions assigned. As violations of law may occur in the practice of medicine, reference to the prosecuting department of the government should be made, and appropriate penalties provided. As the machinery of administration is only quasi-judicial in its nature, errors in procedure, or gross errors in judgment should be correctible by judicial review.

A comparison of the Massachusetts act of 1894 with this generally accepted present-day standard, shows how far we have traveled in these nearly 40 years, and comparison with the present act, shows also that in Massachusetts we have some distance to go before we reach a reasonably high level of attainment.

It is to be remembered that there had been thirty-four years of almost complete absence of legal control of the practice of medicine in Massachusetts. What there was had been obtained through various provisions of the criminal code, which is not identical with the medical practice act. The famous decision of Chief Justice Parsons in the case of the Commonwealth vs. Thomson (1809) was generally accepted. It was to the effect "that if the prisoner acted with an honest intention and expectation of curing the deceased by this treatment, although death, unexpected by him, was the consequence, he was not guilty of manslaughter——. There is no law which prohibits any man from prescribing for a sick person with his consent if he honestly intends to cure him by his prescription; and it is not felony, if, through his ignorance of the quality of the medicine prescribed or of the nature of the disease or of both, the patient, contrary to his expectation, should die."

A decision of the Supreme Court of Massachusetts in 1884 changed the practice of the Massachusetts courts in medical cases. In Commonwealth vs. Franklin Pierce (138 Mass. Repts. 165), the issue was stated as follows: "If a person publicly practicing as a physician, on being called upon to attend a sick woman, prescribe with foolhardy presumption or gross recklessness, a course of treatment which causes her death, he may be found guilty of manslaughter, although he acted with her consent and with no evil intent." In the opinion, Holmes, J. ("Oliver Wendell Holmes, Jr.,") said in part: "When the defendant applied kerosene to the person of the deceased in a way which the jury have found to have been reckless, or in other words, seriously and unreasonably endangering life according to common experience, he did an act which his patient could not justify by her consent, and which was therefore an assault notwithstanding that consent." Referring to the opinion in Commonwealth vs. Thomson, which is quoted in part, and noting the older opinion which Chief Justice Parsons cited, Holmes, J. said "we think that the court fell into the mistake of taking Lord Hale too literally".

In the next year it was claimed that this decision made unnecessary any further legislation to regulate the practice of medicine. Mr. Benton is quoted as saying: "The present law is clear and ample. A man or woman who assumes to practice the healing art implicitly contracts that he or she has sufficient skill and knowledge to do the thing which they assume to do, to cure the disease which they assume to treat, and no other. And if he or she does not have it, they are liable in damage for all the consequences that result from the lack of knowledge and skill. If he or she is grossly or presumptuously ignorant and negligent, and a person is thereby killed or injured, he or she is liable for manslaughter or for assault."

The scars of the bitter conflict that had led to sweeping off the statute books of all regulating legislation in 1859 are with us still and

while in 1894 the wounds were healing, most of them by second or third intention, there was much proud flesh. So the approach had to be indirect and tentative. The act is entitled "An act to establish a Board of Registration in Medicine" and the wording is consonant with this purpose. Section 10 said "Whoever not being registered as aforesaid, shall advertise or hold himself out to the public as a physician or surgeon in this Commonwealth, by appending to his name the letters 'M.D.', or using the title of doctor, meaning thereby a doctor of medicine, shall be punished by a fine of not less than one hundred dollars, nor more than five hundred dollars, for each offense, or by imprisonment in jail for 3 months, or both."

At that time it would probably have been fatal to the bill to propose "An act to regulate the practice of medicine", though in 1818 public opinion had approved "an Act to regulate the Practice of Physick and Surgery". Since 1894, the administrative procedure of actually regulating the practice of medicine has been gradually introduced into the law with fairly adequate provisions in some respects, but no legislature has been bold enough to attempt to define the practice of medicine. We have the opinion of an eminent judge as to what constitutes practice but until it is approved by the legislature, the statute stands on one foot and lacks strength. Chief Justice Rugg has said (Comm. vs. Zimmerman):

"Medicine relates to the prevention, cure and alleviation of disease, the repair of injury, or treatment of abnormal or unusual states of the body and their restoration to a healthful condition. It includes a broad field. It is not confined to the administration of medicinal substances or the use of surgical or other instruments. It comprehends a knowledge not only of the functions of the organs of the human body but also of the diseases to which these organs are subject, and the laws of health and the modes of living which tend to avert or overcome disease, as well as of the specific methods of treatment that are most effective in promoting cures. (Knowlton C. T. in Comm. vs. Jewelle. 199 Mass. 558, 560.) In order to practice medicine one need not cover the entire field of the science. If he devoted himself to a very restricted part of it he may still be found to practice medicine. It is a matter of common knowledge that there has been great specialization in that profession in recent years."

There is illustrated here the difference between the scientific attitude of mind and—others. The scientist, whether in law or some other field, attempts to define as exactly as possible every term that is used in discussion or argument. The unscientific says "Everybody knows what that means, you can't define it. If you try to do so you will leave out something you ought to put in, or put in something you ought to leave out." To the scientific mind the difficulty is only a challenge to greater effort, to more precise definition, to changing the definition, if it does not fit the facts. The difficulty is not an excuse for not trying.

I shall take my courage in both hands and suggest the lines along which a definition of the practice of medicine should run. "The Practice of Medicine is the treating of persons who are sick, by the use of material means."

You will say at once that is too comprehensive and restrictions are necessary. Certain explications also are required, for example, as to the meaning of "treating". Why not include diagnosis of disease? A second approximation to a definition then might read somewhat as follows: "the practice of medicine is the treatment or proposed treatment of persons who are or who are alleged to be sick, by the use or disuse of material means, for the purpose of prevention or relief or cure". A third approximation I shall decline to present now.

The needed restrictions, however, are not restrictions of definition but of practice. The nurse is certainly practicing medicine under this as under any reasonable definition but her activity should be restricted, as it is, and she should be licensed under the restriction. The dentist is certainly practicing medicine but his activity is restricted, and he is licensed under the restriction.

It is a little difficult to classify the chiropractor if one considers certain definitions of that system: there are too many differences of opinion among alleged chiropractors as to what it is. The definition which appeared in the bill before the legislature of Massachusetts last winter suggested "A system of treating the human spine." This is disingenuous or possibly dishonest. Give the chiropractor a human spine to treat and see how he likes it. What he wants, of course, is a person, with a spine. In certain jurisdictions, the chiropractor carefully refrains from saying that he wants to treat persons who are sick because that is so obviously the practice of medicine.

Much confusion has arisen concerning the practice of medicine because of three well-recognized meanings of the term medicine. Medicine means a drug, and as such is distinguished from a food. It also means a method of treatment and as such is distinguished from surgery. It also means a calling or profession and as such is distinguished from law. It is this third connotation that is being gradually more widely accepted as what is meant when one speaks of legislative control of the practice of medicine. Of what is implied in the profession of medicine, I shall speak later. I shall not attempt here to complete the definition of the practice of

medicine, though I do not regard the goal as impossible of attainment.

The nature of the power exercised in regulating the practice of medicine is clear. It is the police power of the state put forth for the protection of the whole people. It is not legislation for the benefit of a class, although it is especially those who are ignorant or less able to look out for themselves that will be benefited. It is for the benefit of physicians only in so far as they are members of the community and not as a separate class. It does not protect physicians as such from the dangers of being imposed upon by unqualified practitioners. It is a fair presumption that they do not need this protection. If they cannot protect themselves in this respect, no law can help them. In Massachusetts some of this police power for protection of the community is exercised by a board whose control is limited to the field of licensure.

In regulating the practice of medicine, the law takes cognizance of persons who wish to practice medicine. It recognizes some as qualified and to them it gives license and registration. To the unqualified it forbids, under penalty, the practice of medicine, and alleged violations of the prohibition are referred to the prosecuting department of the government. Except through the prosecuting department, there is no punishment. The administrative board of licensure merely licenses and unlicenses: it does not punish. If the candidate is deemed qualified for practice, the license is given. If later the candidate seems to the Board to be not qualified to practice, the license is taken away. If the acts of the candidate seem to need punishment, the matter is referred elsewhere as the infliction of punishment is outside of the province of the Board. It does not fine, nor imprison, nor disqualify except in so far as licensure may be involved. The limitations within which the board works are often not recognized by the medical profession nor by lay complainants against physicians.

In the machinery of administration, there is the board and for its guidance certain rules are laid down. The personnel of the board is of prime importance. The statutory qualifications in Massachusetts are as follows: "seven persons, residents of this commonwealth, who shall be graduates of a legally chartered medical college, or university having the power to confer degrees in medicine, and who shall have been for ten years actively engaged in the practice of their profession. No member of said board shall belong to the faculty of any medical college or university, and no more than three members thereof shall at one time be members of any one chartered medical society. One member thereof shall annually in June be appointed by the governor with the advice and consent of the council, for seven years from July first following." The pertinence of these formal requirements is worthy of consideration. The seven persons, one appointed each year for seven years, give a reasonably long enough period of service to secure familiarity with the work of the Board which in some respects demands special qualification, and the possibility of a continuity of effort necessary for smoothly working machinery. There is needed a maturity of judgment and a familiarity with the problems of the practitioner for which ten years in active practice are not too much. The limiting of appointments to one each year except in case of vacancy in an unexpired term makes progress in the direction of improvement slow, and improvement is sometimes needed, but also protects against gubernatorial vagaries, not entirely unknown even in Massachusetts. The advice and consent of the governor's council are a generally recognized protection to the public.

Membership in the board is now limited to graduates of a legally chartered medical college or university having the power to confer degrees in medicine. Why should this be so if doctors of osteopathy are now admitted to the practice of medicine on equal terms with doctors of medicine? The law is clearly inconsistent in its dealing with osteopathy, but this inconsistency is but an example of the hesitation of the legislature to come to grips with the medical practice situation as it exists in Massachusetts today, a situation far more serious than is generally realized. This is a matter to which reference will be made later.

The provision that no member of the board shall belong to the faculty of any medical college or university seems to belong to some bygone era excluding as it does most of the persons best qualified to hold examinations. It suggests that perhaps the passing of the examination is not so important a part of the qualification for practice as is implied elsewhere. The possibility of a misplaced petty loyalty to an institution interfering with one's loyalty to one's profession or to the state, in passing a candidate who might otherwise fail, must be considered. Loyalty to an institution might, on the other hand, make the examiner more strict with the candidate from the educational institution with which he was connected. The whole provision smacks, however, of the days of proprietary medical schools, and since such schools are encouraged by Massachusetts, as I shall show later, it is natural that the law should be flavored by them.

The provision concerning chartered medical societies is one of the scars of battle from the middle of the 19th century. The bitterness of that strife had not disappeared in 1894, and some sort of protection of groups of physicians (rather than of the public) must have been the controlling idea. There is no intrinsic reason

why membership in a respectable medical society should qualify or disqualify a physician for appointment to the Board. In 1894 there were three chartered medical societies. Of these one has disappeared and a second is slowly diminishing. Eclecticism as a potent factor in medicine in Massachusetts has disappeared and as homeopathists have been eligible to membership in the Massachusetts Medical Society for a number of years, many of them have joined that group. On any basis of fair representation according to numbers, the present provision is not appropriate. The law now prevents more than three members of the American College of Surgeons or of the American College of Physicians (both chartered medical societies) from being members of the Board at one time. What is the pertinence of this specification?

After all, what is the basis of representation by medical societies? There is at present, ordinarily, no basis for such restriction. If out of deference to the feelings of some of those whose respect for the battles of the past exceeds their regard for the needs of the present, it is thought necessary to say something about medical schools and societies, a step in advance of the present law would be to require that before qualifying for the Board, not before appointment, however, the candidate shall have resigned from teaching position in a medical school or university, and from all state medical societies. During his term of office he should not renew such affiliations.

A word should be said of non-statutory qualifications, of those intangible or informal requirements which the nature of the work of the Board demands. First of all there are integrity, honesty and courage; then judicial qualities of mind; and finally such a knowledge of human nature as is best described as a sympathetic understanding of humanity. It is not impersonality that is needed so much as personality in the highest sense.

The object of the provisions now in the law is to have the board as free as possible from partisanship. Some physicians will be partisans under all circumstances. Such should never be on the board. Most physicians are susceptible to partisan influence. Detaching them from close affiliation with medical school and medical society, if they are in active practice, will weaken certain partisan elements in their environment. A few physicians, rarely found willing to submit to the restrictions of governmental administrative work, are never partisan. They would "swear to their own hurt". If they can be persuaded to accept appointment, the state is fortunate.

There is at least one aspect of partisanship, in our American system of providing for the general welfare, that is a positive evil. It is our spoils-politics. If a man pays his so-called political debts out of his own pocket, with his own money, it suggests corrupt practice and we are scandalized (if we do not get any of the money). If he pays them out of the pocket of the public, with something which, through his control of appointing power, he holds as a trust, and which he can never own, we tolerate it with equanimity if not with satisfaction. Only when we lift this curse ourselves will it be lifted, and its shadow is not unknown in relation to appointments to boards of medical registration.

The functions of the board of registration in medicine, by whatever name this group is designated, are in a general way to license and to unlicense physicians. The decision as to qualifications for practice should rest on all the pertinent facts that are ascertainable. At this point three groups of procedures become available. The law may state what facts it regards as pertinent, and confer no discretion on the Board. It may state what facts it regards as pertinent as a minimum, conferring on the Board discretion as to other facts which they think pertinent. It may establish no minimum but give the Board complete discretion. The second procedure is the one usually adopted, but as discretion is so generally regarded as dangerous, curious enactments result. In Massachusetts, for example, the Board of Registration may exercise its discretion in granting licenses to diplomates of the National Board of Examiners. The competence of the National Board is generally recognized. It is also generally recognized that a diploma from a diploma mill is of little value as a qualification for practice, but the Board of Registration cannot exercise its discretion in accepting or rejecting for examination the holder of such a diploma. Of this more will be said later.

What are the pertinent facts concerning which the Board must assure itself in Massachusetts before admitting the candidate to examination and how does the Board assure itself? As to the method of assurance, it generally accepts the statements of the candidate, made under oath or under the pains and penalties of perjury, at their face value, and admits the candidate to examination, reassuring itself later by investigation, as the detection of fraud in any part of the procedure of obtaining the license impairs the assurance of the board as to the good moral character of the candidate. If the license is given before the fraud is detected it may be revoked, after hearing, for deceit.

The pertinent facts are that the candidate is twenty-one years of age, of good moral character (as shown by endorsements by two physicians in the state from which the candidate makes application), educational qualifications required for graduation from a public high school, and that he has received the degree of doctor of medicine, or its equivalent, either from a legally chartered medical school having the

power to confer degrees in medicine which gives a full four years' course of instruction of not less than thirty-six weeks in each year, or from any legally chartered medical school having such power, if the applicant was on March 10, 1917 a matriculant thereof.

It is interesting to note some of the things the law does not say. It does not say that the candidate shall be a graduate of a medical school, which implies a course of study; it does not say the candidate shall have studied medicine; it does not say that the candidate shall have attended a medical school for study, even to the slight extent of having lived through some course of study, whether profiting by it or not. If the school gives the course of study required of the school, but not of the candidate, and gives the diploma as empowered by law, this provision of the law is satisfied.

Thus candidates may be admitted to examination who have completed satisfactorily in the ordinary sense of the word, only one year of medical school work. They go to a school, and fail at the end of the first year; they go to another school, take a perfunctory examination, and are admitted to the second year class; they fail at the end of the second year, and repeat this process at a third school; they fail at the end of the third year and are admitted under the same circumstances to a fourth school where the degree is conferred at the end of the fourth year, in accordance with what low standards can easily be imagined.

In the short time that I have had to look over and verify the statements on the application blanks of the candidates who have come before the Massachusetts Board, I have found no such candidate as I have described but I did find a candidate who had been in three of these schools, "unclassified", according to the not too high standards generally accepted in the United States. It is a fair question whether such legally chartered corporations should be regarded as educational institutions and accepted as medical schools. The educational council of the American Medical Association is reported as not recognizing them as such. That the law is not an utter farce in this respect is due to one provision: if at any time deceit is detected, the license may be revoked, after hearing. The difficulty of proving deceit is so great in these cases that the law is practically useless in this respect for protection. If the Board had discretionary power and could ask a school to show cause, in a doubtful case, why it should not be rejected, no injustice would be done to the school or its diplomates, and the public would be more adequately protected.

The first impression that one gets from reading the law, and from considering the arguments that are generally adduced against making changes in these sections of the law relating to licensure is that after all, fitness to practice medicine, no matter by what means that fitness is acquired, is the basic fact to be determined by the Board. There will be few who will question the validity of this contention. The law states explicitly, that the examination shall be sufficiently thorough to test the applicant's fitness to practice medicine. There is here an assumption of the possibility of adequacy of examination for this purpose, that to one who is familiar with the kinds of examinations practicable for State Boards, seems naïve, if not childlike. It shows a remarkable misapprehension of what is needed for fitness to practice medicine.

The inadequacy of the test by examination has been shown by studies made some years ago, when diploma mills as they are called were more abundant than now, in which following up the holders of "milled" diplomas, it was found that such a holder stood a fifty-fifty chance of passing a state board examination. If a candidate takes the examination two or three times a year for several years, cramming for the test each time with some assiduity, he may accumulate sufficient information on the subjects of the examination to get a passing mark. In what sense of the word fit, is such a candidate to be regarded as fit to practice medicine?

The only adequate test of the fitness to practice medicine is the test of experience. Let the candidate enter practice and see how he practices. If he behaves properly, let him continue; if improperly, stop his practice. It requires but a moment's consideration to show the utter impracticability of such an adequate test, if for no other reason than that the nature of the relation of physician to patient requires large discretionary powers on the part of the physician, and adequate supervision of the exercise of such powers is impossible. An approximation to the desired supervision is the requirement by some states that a year's internship shall be completed before the candidate is eligible for licensure and a similar requirement on the part of some schools before the degree is conferred. Since the examination cannot test fitness to practice medicine, recourse must be had to other means of attaining the desired end, as the introduction of other requirements to be fulfilled implies, and in states other than Massachusetts there is a shifting of the method of approach to the problem. In general, this consists in giving the Board discretionary power by inserting the word "reputable", or "approved" or "recognized" before "medical school".

As things are now in the United States, most medical schools feel a heavy responsibility in preparing their students for the practice of medicine, and the feeling is widespread that a better test of fitness to practice is obtained by

using the educational procedure now adopted than by rejecting it altogether. A part of the procedure is the requirement of certain studies in science, making necessary about two years of college work, before admission to a medical school. The procedure is by no means perfect and some of its most intelligent and penetrating critics are to be found in the ranks of the teachers who know it from the inside.

One of the criticisms justly directed against the present requirements of two years of college work as a prerequisite for admission to generally approved medical schools is on the ground of expense. Since medical education itself has become expensive in even greater degree than collegiate education, the boy, poor in financial resources, is confronted by a difficult problem. Modern medical education *is* expensive, but it is important to keep in mind that if it is made inexpensive it is likely to lose its modern and its educational qualities, and much of its medical content.

Here we have a point that is emphasized by the so-called friends of humanity, the friends of the poor boy, those advocates pleading the cause of the downtrodden, the poor and the needy (usually for a price). They insist on cheap medical education for poor boys. What is needed is financial assistance for gifted individuals, so that they may have the benefit of medical education which must be costly to be what the times require.

It would be a far greater benefaction for the State of Maine, for example, that once had an honored and respected medical school to establish a fund of a million dollars, the income of which should be used to send promising men and women from Maine to the best medical schools in the country than to employ that sum, small as it would be even for the purpose I have suggested, as a meagre endowment for a new school to be opened in that state.

At this point it would be interesting, and profitable, if time permitted, to trace the influence of state laws on medical education. It is a phase in the development of medical education that has been too often overlooked. Not many years ago, the view was expressed that one of the greatest obstacles to progress in medical education was the rigidity of requirements laid down by some State Boards for medical schools (with power of enforcement on candidates taking examinations in those states, of course), which prevented, it was claimed, proper experiment and searching for new and better methods. It may be recalled that some university medical schools experimented as they saw fit without fear of extinction. Perhaps the obstacles were not so great as the martyrs claimed but the dangers of rigidity of requirements through too exact specifications as to hours, studies, and courses in the curriculum became evident to all. In matters as fluid as these, if control by the state is necessary it should be exercised with the discretion of the controlling body, by rules subject to change to meet changing conditions without great difficulty, and not by specificity of enactment and continual tinkering with the law.

We sometimes think of the beginning of reform in medical education in the United States as taking place in the first decade of the 20th century, but a movement which culminated in Flexner's report to the Carnegie Foundation required years to acquire momentum, and we see signs of ferment at least half a century earlier.

Although changes were made spontaneously in medical schools here and there, it is the gradual introduction of laws regulating the practice of medicine which slowly brought some order out of the chaos in the third quarter of the 19th century. Fitz acknowledged in 1894 that to state laws more than to any other one cause, was due the difference between the condition then and in 1870. Fitz goes on to say: "In Alabama, Colorado, Connecticut, Illinois, Nebraska, Oregon, South Dakota and Washington, at least three full courses of five to six months each, no two in the same year, are demanded. The State of Oregon after 1898 will require four courses of six months each from physicians who wish to practice in that State. There is not only a prolongation of the period of study as the effect of these laws, but there is also an increased demand for a preliminary education, the establishment of new professorships and more exacting examinations for the degree." It is to be noted that Fitz was writing at a time when Massachusetts had no law regulating the practice of medicine, and so it can claim no part in this signal contribution.

So great has been the change of emphasis in the proper function of State Boards, that recently there have been expressed views that suggest that the states withdraw almost completely from the critical exercise of their licensing powers and accept graduates of approved schools with no further test of their knowledge of medicine. It may be said that such views have not received widespread approval, but the chief basis of disapproval is not because of possible insufficient preparation of the graduates, but the impropriety of the state's turning over to any other external authority any portion of its power. In any case, the views indicate the great change which has come about in the attitude of Boards and Schools, each to the other.

In recent years there has been a growth in the sentiment in favor of the annual registration of physicians as shown by the legal enactments in a number of states. The procedure is an innovation and should be scrutinized carefully from the point of view of protection of the

public. Its convenience or inconvenience to the medical profession, certainly entitled to consideration, is of secondary importance.

The enactment of laws requiring registration of qualified physicians indicates the fundamental importance of knowledge of what persons are licensed and are therefore to be regarded by the public as competent to practice. To some persons this knowledge has no value; no matter what happens to them, they are not sick, they would never send for a physician, and no need of discrimination arises. Most persons, however, think they will want a physician at some time and they want a competent physician when they are sick. They may not be able to afford the best, but they think they have a right to reasonably good care, and to them knowledge as to who is qualified to practice medicine is important.

At any time information can be obtained at the State House as to whether a given individual is or is not licensed. To make such knowledge more easily available, the law requires also that the candidate shall register his certificate with the town clerk where he plans to have his office, before he enters upon practice. As it is now, little effort is made to see that the lists in the offices of the town clerks are correct or adequate, for example, that, if a doctor dies, his name is removed from the list. If a person opens an office, little effort is made to see that he is registered with the town clerk.

Well, what difference does it make? Ordinarily perhaps it makes little difference, but if it is true, that approximately ten per cent. of those practicing medicine in Massachusetts are not legally qualified to practice, the situation is seriously wrong. This statement has been made by a competent student of medical practice and there is no proof to the contrary. Occasionally the attention of the board or of the police may be called to a single instance and appropriate action is taken. Unless a systematic and thorough search is made, relatively few violators are detected, yet it is claimed there are hundreds in the state. It is clear that on grounds of public policy the boards of registration in medicine should be given the power to require re-registration at such intervals as will give the board, and so the public, reasonably accurate information as to those who living in the state are duly qualified to practice medicine.

In Massachusetts there has been vigorous objection by physicians to such proposed legislation. What just ground can there be? The just ground, and it is generally considered of no weight by legislators, is that it is unfair to tax qualified and duly registered physicians alone to enforce a law against unqualified practitioners. The tax would be small, perhaps two dollars for each re-registration, and it might be said that the elimination of unlicensed practitioners would increase the income from the practice of each registered physician by at least two dollars a year, but these considerations do not affect the principle. Re-registration of physicians is needed for the protection of the public and the cost should be met out of general funds, as are other expenses of the board and of the police. The medical profession in Massachusetts is sensitive on this point, but as has been said legislatures are generally not sensitive on the same point.

I ought to say at least a word about another recent movement, namely the enactment in several states of what is called a Basic Science law. Since legislatures seem determined to license under various designations, practitioners of the healing art who are actually not qualified by any generally accepted standards, an effort has been made to improve the situation by requiring by law that all practitioners whether physicians or what not should have a certain training in science, in the so-called basic sciences.

In at least one respect it is commendable, for it is hoped that thereby there will be introduced into the training of the practitioner, a tincture of science and scientific method, the true antidotes of ignorance and superstition. But ordinarily the teaching of science is limited to its informational content, useful to a certain extent indeed, but it does not penetrate the substratum of ignorance of scientific method and lack of faith therein.

There is another educational defect in the procedure as it is now carried on, associated but not identical with that to which I have called attention. It is an important principle of education that knowledge should be acquired in some relation to its applications. The effect of the basic science law is to divorce still further these already too widely separated lines of pursuit. The fact that there is not such complete satisfaction with these acts as was expressed at first should make a state hesitate to adopt such legislation. There are probably better ways of dealing with the situation.

Of the provisions in the law concerning the unlicensing of physicians I shall say little except on one point, not because this function is of less importance than that on which I have dwelt at length but because I do not wish to trespass too much on your patience. The point to which I now direct your attention is dealt with in most of the state laws specifically, and appears in Section 61, Chapter 112 of the General Laws of Massachusetts under the heading, "Suspension or revocation of license, etc." The part of the section pertinent to what I have in mind reads: "Except as otherwise provided by law, each board of registration in the division of registra-

tion of the department of civil service and registration, after a hearing, may by a majority vote of the whole board, suspend, revoke, or cancel any certificate, registration, license or authority issued by it if it appears to the board that the holder of such certificate, registration, license, or authority, is insane or is guilty of deceit, malpractice, gross misconduct in the practice of his profession, or of any offense against the laws of the commonwealth relating thereto." For the purposes of our discussion the phrase "gross misconduct in the practice of his profession" is critical, and it is worth while to dwell on its implications.

In common law there are, and have been, I am told, two conceptions of duties, rights and obligations between individuals. The first conceives of individuals as free, independent, mature, intelligent, self-sufficient, and isolated except in so far as relations to other individuals are entered into voluntarily. The second conceives of individuals as in some respects at least in such relation to other individuals, that over the relation neither individual has control. There has arisen the conception of obligation due to relation, which has often been forgotten in the past, but which has been a potent element in the application of common law in modern conditions of industrial life. Especially in this field, the conception of obligations as between independently existing individuals broke down, because it did not fit the facts of everyday life. Of course it never did fit the facts exactly but as a working hypothesis it did well enough until squarely faced by the complexities of modern civilization in which progressively increasing social control is needed if society and not anarchy is to endure.

The conception of relational obligations is met with everywhere today: the relations between individuals entail certain obligations, which vary with the relation. Even if the relation is such that one may or may not enter it, according to one's wish, if one enters the relation the obligation immediately has force.

This conception has been one of the most significant forces transforming recent legislation in the field of social control, and finds its philosophical justification in that analysis which has as its conclusion that the nature of existence is societal. This justifies no specific act of legislation which must be passed to deal with some concrete situation, but it shows the sound basis for the tendency which is so characteristic of legislation today.

The conception of relational obligations has, I think, only touched the medical practice act. A dim awareness may be detected here and there in certain suggestive phrases, but it is the introduction of the idea of professional obligation which marks the significant influence, of which we have seen just the beginning.

What is the nature of the professional obligation and how does it differ from other obligations? The distinction is best brought out by the contrast between a trade and a profession, the guiding principle in trade being "caveat emptor". It is true that modern business has rejected the well-worn adage of "let the buyer beware" as its sole guiding principle, and efforts are made to give business the standing of a profession. Also in some professions, there are unworthy individuals who prey upon the weak and the ignorant, but in the professional relation it is not two independent individuals who meet, each seeking some kind of victory by trial of arms or wits. In no sense is it a trade, although some exchange may take place, and in the relation of physician and patient, the patient in a very real sense puts himself in the power of the physician, for better, for worse; a kind of trusteeship is created, with physician as trustee.

I think that this conception of relational obligation will gradually transform the medical practice act, changing it as it needs to be changed, if it is to deal with the conditions of medical practice as they exist today, changing it almost completely in spirit and modifying greatly some of its specific provisions. Only a beginning has been made, but how far we have gone in this country in these last sixty years is seen when we compare those early acts with what the most enlightened states have on their statute books today.

In closing, I would say that the goal of our endeavor in legislation to regulate the practice of medicine is a just conception of the necessity of such regulation by the state, and adequate provision for intelligent and reasonable control, under the domination of the idea that the nature of the relation of physician to patient is so vital in the welfare of the state that only persons of indubitable fitness to carry the responsibility of the physician should be permitted to enter or continue in the practice of medicine.

General Laws of Massachusetts 1921. Chapter 13. Chapter 112.
Medical Practice Acts of the New England States—Directory of the A. M. A. 1931.
Regulation of the Practice of Medicine—A digest of the Case Law. A. M. A., Chicago, 1915.
R. H. Fitz: The rise and fall of the licensed physician in Massachusetts; 1781-1860. Boston M. & S. J. 130:529 (May 24) 1894.
R. H. Fitz: The legislative control of medical practice. Boston M. & S. J. 130:581 (June 7) 1894.
O. W. Holmes: Collected Legal Papers.
R. Pound: The Spirit of the Common Law.
R. Pound: Interpretations of Legal History.
A. N. Whitehead: Process and Reality.

Discussion

DR. BLUMER: You have heard this very interesting paper. We have asked representatives of the Examining Boards of the different States to be present and discuss it; and I will first call upon Dr. W. R. Noyes of Vermont.

DR. NOYES: *Mr. President and Members of the New England Medical Council*—Dr. Nay, Secretary of the Vermont Board, asked me to represent the Board, and I am very glad to do so. I have been interested in the examinations of physicians for licensure for several years. I might say that I wish Dr. Nay were here because he could more fully tell you about the Vermont law, and by the way, he is the oldest in point of service of any Secretary in the United States.

Our Board does not feel satisfied with the methods of examinations in the State of Vermont. I imagine that our law is similar to that of Massachusetts. We feel that the examination given students is not a practical one. That is, we wish for one thing that we could take the applicant to the patient's bedside as is the method of the National Board. We try to make our questions practical, but it seems almost an imposition, on a student recently graduated from an accredited Class A medical school, to ask him questions which he may have been asked just previously in his examinations for graduation, but that is the best we can do under the present condition.

Dr. Rushmore did not speak on reciprocity between the States. We in Vermont do reciprocate in this way, that we endorse the certificate of a licensee from another State if that State reciprocates in the same way with Vermont. Most of the States do this, so far as I remember, with the exceptions of New York and Florida. We have endorsed certificates from Massachusetts, and many other states, but there is a danger in this practice. Before we endorse a certificate from another State, we should have recommendations from the State Board of Registration, the State Society and from the County Society of the State from which the applicant applies in order that we may know whether that person is qualified in every way. I know that we have taken in some whom we have found later on should not have been licensed anywhere. We recognize the examinations of the National Board which I feel, from what I have read of them, to be very thorough.

I am unable to discuss all the points brought out by Dr. Rushmore, but I certainly consider it a very fine paper.

DR. BLUMER: I will now ask Dr. Adam P. Leighton, Jr., of Maine to continue the discussion.

DR. LEIGHTON: *Mr. Chairman and Gentlemen*—I have enjoyed the paper of Dr. Rushmore. It was excellently prepared and beautifully presented. I am glad indeed to be here today and am indebted to the person who invited me for two reasons. I am glad to rub elbows with the leaders of the profession, men of repute, on such an occasion. I, too, am glad of the opportunity to apologize for my actions two years ago in coming before this body at the time the meeting was held coincidently with the meeting of the Maine Medical Association at Belgrade. I was invited to this Council meeting. I did not push my way in. It was said that I was not diplomatic in my address, and I admit the allegation. I apologize if there was disrespect. I am sorry if I was loquacious and if I made remarks which might have been irrelevant. It was not my intention I assure you, and it is not my usual attitude as an individual. I was interested in the subject and on that day I was particularly stirred up because I arrived late at the meeting and was told that there was on foot a motion, or an intention, to radically change the Medical Practice Act of the State of Maine. Having been a member of the Maine Board for seventeen years and for the last ten years its Secretary, I imagine I have taken my position a little too seriously, perhaps due to my egotism, but I think I have overcome that defect.

This has been an interesting paper and something to which we men of the Boards and teachers should give more consideration. Each year there are difficulties confronting us. At the present time each one of the States of New England encountered a tremendous problem in dealing with this situation. The ingress, the advent rather, of the cults, and especially the pseudo-medical practitioner, has made it essential to enact laws to protect the medical profession and, I say it advisedly, to protect the public. Unfortunately, I have come to believe that the public doesn't want to be saved. I am quite certain the public knows but little about medical practice laws. I know they give very little consideration to their practitioners, but I still insist there is much to be done by us, by our representatives and members of the State Boards, to make the laws more comprehensive and put "more teeth" into them.

I want to congratulate the State of Massachusetts especially upon the fact of having a medical man of Dr. Rushmore's type and ability as Secretary of the Board. All of us in the New England States have the kindest regard for the Massachusetts Board, and I am sorry indeed that at the present time the law is such that we are unable to reciprocate with this State. The reason, of course, is obvious to all. I have no doubt that under Dr. Rushmore's leadership the laws of Massachusetts will be altered to the end that we can have that friendly coöperation and interchange of activities and that reciprocity which is so badly needed at the present time.

In Maine we have a very good Medical Practice law, all things being considered. I wish there were "more teeth" in it, as I said before, and I believe that can be brought about. Our Board is made up of six medical men of good

standing. We accept only those who are graduates of Class A medical schools, and, whoever made the Medical Practice Act of Maine incorporated the words "a person who desires to practice in Maine must be a graduate of a recognized, reputable medical school" and therefore it gives the Board and its executive officer the right to select those who are graduates of a reputable, recognized school, and so since 1915 we have allowed only those graduates of a Class A school to come before the Board. We license only medical men. The cults and pseudo-medical practitioners are taken care of by various boards, such as the osteopathic and chiropractic boards. Some believe strongly that a composite board is the solution of this problem. I have long since taken the stand that that is not what we want. Some of our friends in other States tell me it has not worked out well with them. I had much rather see men coming into medical practice in Maine protected by a Board with the high requirements demanded by our examinations than to have a composite Board where we would have to come down to the level of the cultist or pseudo-medical practitioner. If this could have been two or three decades ago it would have been a solution, but I should hate to let down the bars and admit ninety osteopaths and one hundred and ninety chiropractors and give them the same rights and privileges that we have. I don't believe it is the proper thing to do.

In Maine much power is given to the Board. We can revoke licenses upon conviction of a crime or felony. That is fairly broad. If a man is selling narcotics or prescribing liquor in violation of the Prohibition Law, or is convicted of performing an abortion, or of any minor charge, we may revoke his license and he has no means of recovering that license except through the Board. This means that when we revoke it, the courts cannot change the decision.

We are confronted in Maine with a difficult problem, such as I imagine is common to all of us. The osteopaths are better practitioners than they were some years ago. You all know that the curricula of the first class schools have been elaborated and bettered; there seems to be a transition taking place so that I imagine eventually the osteopaths will become full-fledged medical practitioners. That is their ambition. I believe that we shall keep these cults segregated. The osteopaths in Maine, due to the apathy or inattention of the medical profession, received at the next to the last session of our Legislature rights and privileges equivalent to those of the regular profession. They amplified their act by the addition of certain sections which allow the osteopath to give drugs, practice surgery and obstetrics. That opened up the general practice of medicine to them. I think it is a great mistake, but nobody appeared before the legislature to protest. There was no concerted action on the part of the Association, I am sorry to say, to stop this legislation and it went through. The medical men were dead. I hope that at a later session of the Legislature the Association will take action, and that members of the profession will go to Augusta and try to have this law revamped, so that the osteopath will not have the same privileges as we.

The law of the State of Maine that no person other than a graduate M.D. may append the prefix "Dr." or use the word "Doctor" with his name, if he is treating any human disease or holding himself out for the relief of human ailments is in itself desirable, because chiropodists and cultists coming to our State are not allowed any such use of titles. If they do use them they are subject to court action, which it has been my pleasure to invoke on many occasions.

The basic science law, theoretically and practically, seems to be a fine thing. I know there are those who will not agree with me, but where in Maine we have three or four boards it seems to me that if we had a basic science law of the proper type it would weed out and keep out of the State those objectionable types of the pseudo-medical practitioner.

We accept the certificate of the diplomates of the National Board, although not incorporated in the law, by giving a short oral examination and in that way afford consideration to physicians from the States with which we have reciprocity. To my mind, the composite board upsets reciprocity. If we were faced with such a law, we would have more difficulty with osteopaths and chiropractors and some of the others who at present we are able to restrain. They can only come into Maine now through action of their own boards.

The two years of college pre-medical work I believe is a good thing. In Maine that has been in vogue since 1916, and we recognize only graduates of the best schools. That is most obvious. The classification of the A. M. A. has been changed from A. B. C. to "recognized schools" and that allows us to discriminate. The graduates who come to Maine are from Harvard, Tufts, Boston University and McGill and are of a high type. I am not in favor of any legislation to lower the medical practice law requirements, or any legislation that will make it incumbent upon us to let down the bars and give the men who are of lower standing the right to practice there. This is an important question; it is far beyond me. I do know that at one time I thought I had the solution, but as I said before I have come to the conclusion that I know very little about it; I can only busy myself with the executive duties of the Board. I shall be interested to hear comments by some of the other members of the State Boards of

New England, and I do not think it is Utopian to suggest, that we shall be able to get together yet on an equitable basis, that our laws relating to reciprocity of licensure may be the same, and that we may have men come from other States to Maine and go to other New England States without any of the difficulties which have been present in the past. Massachusetts has had its difficulties. I am sorry for it. I think it deserves the sympathy of all medical men and members of the other State Boards, but I know it is going to pull out of it. As the reputation of the board is enhanced and more teeth are put into the law Massachusetts will drive out of existence those unfortunate institutions which are now in the Commonwealth. Things have been bettered in the last ten years throughout the United States and it is through such meetings as these where we can express our different opinions and all labor together to bring about better laws relating to licensure that eventually these questions and problems will be solved.

I thank you very much, Mr. Chairman, for this opportunity to be with you and I want to add that I have enjoyed the paper of the day exceedingly.

DR. BLUMER: Dr. Charles Duncan of New Hampshire will continue the discussion of this paper.

DR. DUNCAN: Unfortunately I arrived a little late and did not get the benefit of Dr. Rushmore's paper in its entirety, but from what I did hear I know it surely covered everything and was intensely interesting in every way. You know in New Hampshire we changed in 1915 from the several medical examiners' boards to the single board. At that time legislation was passed which defined the practice of medicine, and as Dr. Rushmore said you are treading on dangerous ground when you attempt to define the practice of medicine. However, it was attempted, and I think the definition as it is given in the law has been the means of keeping some of the cults mentioned by Dr. Rushmore and the previous speaker out of New Hampshire. New Hampshire, however, is afflicted with the chiropractors who work under their own law and have their own board of registration. Our law as passed in 1915 gave as its definition of the practice of medicine this brief statement: "Any person shall be regarded as practicing medicine under the meaning of this act who shall operate on, prescribe for or otherwise treat any human ailment, physical or mental." Of course a definition of this sort immediately suggests exemptions, and under it exemptions were given to chiropodists, nurses, those who treat by massage or baths, or any person who might be called upon in emergencies to treat human ailments. There are other exemptions, however, not applicable to any of the various cults.

The Board is made up of five members and they are appointed, one every five years. This Board under our law has been given considerable power, and right here I think I ought to say that the powers which that Board has are not always taken advantage of by the medical profession of the State, because it is within the power of the Board to investigate complaints and revoke licenses of anyone whose moral character or personal habits have become or are such as to unfit him for the practice of medicine. That, of course, takes in alcoholic and morphine addicts. Complaints coming to the Board from the medical profession may result in revocation of a license if the evidence is sufficient to prove that it is necessary. The law defines in detail what subjects shall be included in the examinations and the prerequisites for admission to such examinations. It states distinctly that candidates shall have studied the treatment of human ailments not less than four school years of not less than nine months each, in a medical school registered as maintaining at that time a standard satisfactory to the Board and shall have graduated from such school. The Board in its approval of schools takes the standards of the American Medical Association, so that we are perfectly safe under the legal definition of medicine because the law gives the Board the privilege of excluding any candidate from any school. New Hampshire is one State that grants reciprocity to the Massachusetts men. We are perfectly willing to accept Massachusetts men from the better medical schools. The Board will not accept men from the Middlesex College or the Boston College of Physicians and Surgeons, but it does give reciprocity to men from Boston University, Harvard and Tufts, and through the years since 1915 when the Board first began granting reciprocity to Massachusetts men we have only in a few cases had cause to regret it. In those few cases, although the men came well endorsed they did not live up to the recommendations as to personal habits, and it was an easy matter for the Board to revoke the licenses, and it did so in several instances.

The enforcing of the Medical Practice Act, as is the case in most New Hampshire laws is done on complaint to the County Solicitors. Violations of the law may be dealt with by the imposition of fines and in certain instances imprisonment. The New Hampshire Board has among its members one from the Dartmouth Medical School faculty. The provision in regard to teaching in a Medical School present in some state laws is not a feature in the New Hampshire law. It happens, in New Hampshire, that the Secretary of the Board of Registration in Medicine is also the Secretary of the State Board of Health. That is not, however, a feature in the law. As a matter

of fact I, the present incumbent, was virtually drafted to serve as Secretary of the Board. The Secretary of the Medical Examining Board having resigned and all the records and other necessary material for carrying on the work of the Board having been left at the office of the State Board of Health, it seemed necessary to the Governor and Council that immediate action be taken to have the Board function. Their action brought about the appointment of the Secretary of the State Board of Health as Secretary of the Medical Board.

On becoming Secretary of the Board I found that the registration of physicians as given in the reports was very incomplete and inaccurate. It is the policy of our Board now when registering physicians to compile each year a complete list of those who are actually practicing in New Hampshire. I find that we are able by this method to keep track officially of such physicians. Those licensed in New Hampshire who are practicing out of the State are more difficult to get in touch with. They either move around and do not get their mail or do not answer requests from the Secretary for addresses. The report which is compiled each year also includes the financial status of the Board. The expenses of the Board must be met by the registration fees and sometimes money is scarce, but for the most part the Board, because of the registration fees, is able to carry on and do the work necessary for efficiency. The examinations of the Board are held twice a year and are scheduled for March and September. At these examinations we have anywhere from five to ten men, and throughout the year the work of the Board is not arduous because we probably would not have for examination and reciprocity more than twenty-five men in any one year. Since the law has been enacted we have had very little litigation.

As I said, we find that when the various cults think of New Hampshire as an opening and write to us if we quote the Medical Practice Act to them, and the definition of the practice of medicine which is in the Act, they feel they cannot comply, and we have not been bothered with any of them to date except the chiropractors who are admitted under their special law. I had occasion to go into the question of statistics regarding New Hampshire physicians in 1927, and I find the conditions have not changed greatly since then. What we had to say at that time was published in the American Medical Association Bulletin. In that statement the statistics as applied to New Hampshire were recorded, that is, the number of practitioners registered, the question of having proper medical attention in the smaller towns, etc. We find of late years that there are men of good ability who are willing to go to the small towns, and I think that perhaps that tendency will increase. I know it will if it were possible for the small hospitals located in the small towns to give those men the kind of support which is due them because of their education and fitness. I say this because, the last year or two, men have gone into the smaller towns and in trying to be affiliated with the hospitals have felt that they have been denied opportunities to which they were entitled. They realize that if a patient is sent to a somewhat remote hospital and attended by the family physician that the expense may be prohibitive thereby necessitating the services of a physician connected with the hospital. It seems to me that some provision should be made by the smaller hospitals so that no matter who takes care of a patient the fees should be arranged so that the man who sends the case to the hospital from a distant community may have the benefit of fees in these cases and reasonable compensation for the extra distance he has to travel to treat them. I can think of several towns with very efficient small hospitals where a physician would be willing to settle in the neighboring small towns if he could be recognized by that hospital and have the facilities of the hospital extended to him.

New Hampshire's treatment of the osteopath under the definition of New Hampshire law has been to approve certain osteopathic schools and to accept them for examinations on the same standing as those holding the M.D. degree. We may require from all candidates a practical examination and usually do so in pathology and bacteriology with a written examination in the other subjects as designated under the law. We find that since this law has passed we do not average more than one osteopath coming into the State each year and we find they pass a very good examination.

I enjoyed Dr. Rushmore's paper very much and thank the Council for the invitation to be present. I am very glad to be here and hear from the Secretaries from other States and meet the men with whose signatures alone up to now I have become familiar. I think it is a helpful sign for State Board Secretaries to meet in this way. I think we ought to back one another up as much as possible in giving information as to candidates for registration and licensure and especially those who ask for reciprocity having been in practice in any State for a number of years. We require of course recommendations and when those recommendations come through they ought to mean what they say. I think if the Secretaries of the Boards would write one another concerning those who ask for reciprocity perhaps we could get a little better understanding of the character of the man than we can by asking the fellow physician in a community who perhaps knows him as a brother practitioner, and wishes to say only the best word about him.

DR. BLUMER: I will call upon Dr. Round of Rhode Island to continue the discussion.

DR. ROUND: It is very pleasing to listen to a paper like Dr. Rushmore's, showing so much breadth and such a comprehensive treatment of the subject. I was especially interested in the historical and philosophical side of the paper and I wish to congratulate Dr. Rushmore particularly upon these features.

Rhode Island, I am glad to say, does not have in its laws many of the undesirable features mentioned by Dr. Rushmore. Our laws appear to be particularly good in this respect. Any person is regarded as practicing medicine "who holds himself out as being able to diagnose, treat, operate or prescribe for any person ill or alleged to be ill with disease, pain, injury, deformity or abnormal physical or mental condition, or who shall either profess to heal or offer or undertake, by any means or method, to diagnose, treat, operate, or prescribe for any person for disease, pain, injury, deformity or physical or mental condition". There are of course the exceptions of dentists, osteopaths, chiropractors, etc., which are covered by special acts.

Our present medical practice act was passed in 1892. Since the passage of the original act there have been several amendments, some to strengthen, some to broaden. The original act made the State Board of Health, ex-officio, the State Board of Medical Registration. In 1929 the board was reorganized and replaced by the Public Health Commission which is also ex-officio, the Board of Medical Registration. Qualification for membership upon this Board is simply that the members must be qualified electors of the state. All the members are medical practitioners, however, and this has been the case for a number of years with the former Board. The Commission is given broad discretionary powers in determining who shall be admitted to examination and how the examination shall be given. It is a regulation of the board that only graduates of Class A schools shall be admitted and, if they have graduated since 1918, must have had at least a year's internship in an approved hospital.

It is unfortunate that a written examination will not determine the qualifications of a man to practice medicine or determine the ability of a person to make practical application of any subject. This can only be determined by actual experience; and it is unfortunate, as one of the gentlemen has already said, that we cannot take a candidate to a bedside to make a diagnosis, as is done in some states.

We verify all of the statements which the applicant makes in his application, and it was recently my duty to exclude a man who presented himself for examination because we found that in the credentials he had submitted there were some misstatements as to his qualifications and some misrepresentations. There is no annual registration in our state. The Board has the power to revoke licenses for gross unprofessional conduct likely to deceive or defraud the public. However, every revocation is subject to review by the courts. And I must congratulate, I believe, the State of Maine upon being a state where their revocations are not subject to review. Our Board several years ago revoked three licenses. Appeals were made to the Superior Court which sustained the revocation. Appeals were then made to the Supreme Court where they are still pending. Our Board has never been able to get any consideration of those appeals. It is no use to bring new cases against these men because while their licenses were revoked they are still in good standing until their final appeals are heard, and the courts will not consider any case against them until the appeals before the Supreme Court have been heard.

Mention was made of the osteopaths in New Hampshire, I think. In Rhode Island we have about eighty. They are given the same examinations as the M.D.'s with the exception that for the theory and practice of medicine is substituted the theory and practice of osteopathy. Their examination, however, is by a separate subsidiary board which is composed of two members of the State Board of Medical Registration and an osteopath.

The chiropractic law is administered by a separate board. There was an attempt last year to clarify the law and to make more definite some of the passages that were rather vague. They have succeeded to a certain extent, but I feel that the new law cannot be called a complete success.

Rhode Island, perhaps unfortunately, has never reciprocated with any other state in medical licensure. This is particularly unfortunate as regards relations with Massachusetts physicians who live near the border and may want to come into our state. One drawback that has in the past prevented reciprocity with Massachusetts and which still stands is the fact that the latter state admits to examination any candidate who has passed a full four-year course in medicine regardless of the school from which he comes. The various states are in a ridiculous situation regarding medical practice. Why is it that a man can legally practice in Rhode Island but he cannot practice in Massachusetts or Connecticut? If a man is competent to practice medicine in one state in the Union, there should be no reason why he is not competent to practice in any other state and so far as I can see there can be no legitimate arguments brought forward to prove that he is not. The whole thing hinges upon the definition of the word competent. What the ultimate solution of the question may be, I don't know. At the present time I am looking rather hopefully to the National Board. In Rhode Island we admit National Board diplomates on oral examination. It will

take some time before the diplomates of the National Board become an important factor in the medical profession, but unless the matter can be taken out of the hands of the politicians and carried on by the medical profession itself we are going to have the same trouble with reciprocity that we have had in the past.

To the investigation and prosecution of infringements of the medical practice act I have been forced to give more attention than to any other phase of our law, and I want to say here that it seems to me that the renegade physician is causing as much trouble as the cults. Of course he is a registered man and has a license and it is very difficult to do anything with him, because those who have had experience know it is a difficult matter to prove incompetence on the part of a licensed practitioner. I believe they are doing more harm in our state, and further in all states, than are the members of the cults.

DR. BLUMER: I am going to ask Dr. John C. Rowley from Connecticut to speak to us. Perhaps he can tell us something about the basic science feature as it is handled in his State.

DR. ROWLEY: I am afraid the time is pretty short and so I will make my remarks brief. I was very much interested in Dr. Rushmore's handling of the general principles and philosophy of the law as a basis on which we may proceed in the solution of our problems in medical Licensure. We are so hampered by the cults and the other details that we are floundering around in our efforts to get proper legislation. I think all of our medical practice acts are not what we would like but what we are able to get through the legislature. As a result of the scandals in the eclectic schools of medicine a few years ago we had in Connecticut what we considered a good law presented to the legislature, but as usual, when the medical men try to get something through, there is a cry that the great million dollar medical association trust is back of it, that we are working for the big man and we are trying to oust the poor little fellow who has no money and that is the upshot of all our efforts. The cults in Connecticut had a very strong lobby when this bill was presented and heard, and we had to get what we could. The feature of the law we were able to obtain was the Board of Healing Arts. Of first importance is the fact that we have a fine Board. The Secretary is Professor Baker of Yale University, and the secret of that board's functioning is due to him. We have several State medical examining boards, a regular medical, osteopathic, eclectic and so on. The Board of Healing Arts has about a hundred candidates every year. They reject as a result of the examinations probably twelve per cent. Most of their candidates come up for examinations for practicing regular medicine. Our idea in establishing a Healing Arts Board was that the public should be protected from incompetent practitioners, and this board seems to secure this as everybody must appear before this board no matter what he practices. Later if he is a graduate of the osteopathic schools he goes before the osteopathic board, and so on. I might say so far as osteopathic physicians are concerned, those who want to practice surgery, take our regular examination in that branch and if they pass they may include surgery in their practice. The osteopaths put this measure through but so far only a few have taken the examination; only two or three have passed. I do know, as Dr. Rushmore said, that our laws are pretty rigid. I wish we could go more on general principles, but that will come in time. I think people are being educated to the necessity of some of our laws, and that brings up the matter of reciprocity. In Connecticut we have no reciprocity, but we do admit men from all the other states. Our law says we may admit men from other states when it is proved that the man is reasonably well qualified; we admit them without any hesitation, though all candidates have to take an oral examination.

I agree with the doctor from Rhode Island that if a man is qualified to practice in one state, he should be able to practice in any other, but everybody realizes that there are certain men who drift, who don't succeed in one place and they go to another, at least there are physicians who get into the drink or morphine habit and it is important that we exclude men of that type. We do have a problem in Connecticut that I think is important, and that is concerning physicians from New York City wanting to practice in Connecticut. During the summer the doctors in Connecticut feel that the New York physicians thereby take work away from the Connecticut doctors.

Our attitude toward the medical schools is that we think that a written examination and even our oral examinations are not sufficient to determine always how well qualified a man is, but I don't know any other way out of it at the present time. I think the time is coming when we will rely more on the standing of the school that the man graduates from and not so much on written examinations. Dr. Winternitz at Yale Medical School suggests something of this sort; that the men in the medical schools take the National Board Examinations as their final examinations, and let these answer for their State Board Examinations. In Connecticut they have to go before the Board of Healing Arts and two days after that they have to come before our Board, and the fees are quite high.

We were made a judicial board recently, which means that we have to revoke licenses or censure physicians who have committed abortions or broken the liquor law. We have registration every year for physicians and they have to

pay a fee of $2.00. We feel that a physician should not have to pay that every year. But we do, and it works out I should imagine from the point of view of the State Board of Health as a very satisfactory arrangement. They know where the physician is and also know who are legally entitled to practice. I think that covers everything I have to say.

DR. BLUMER: Before opening the paper for general discussion, there are one or two points I might mention. Dr. Rowley in speaking of the basic science law didn't mention that none of the examining members were physicians. Professor Bakewell is professor of philosophy at Yale and the other members of the board are laymen. It seems to me that from the point of view of the public that is an important matter. If the Board were composed of physicians it might have some prejudice, or rather might be accused of being prejudiced, but as it is not that objection cannot be raised. Another thing that struck me in all the discussion was that a considerable proportion of the states accept the diplomates of the National Board of Medical Examiners and that naturally brings up the query, why is that the case. It seems to me there are two reasons for that. I may say I have been the chairman of our local section in Connecticut for a number of years. One reason is the character of the examinations. As has been repeatedly said, almost all the men who are connected with the medical examining boards of the different states feel that the ordinary written examination is not a test of a man's capacity to practice medicine. The type of examination given by the National Board of Medical Examiners is quite different. In the examinations, the man is given a so-called long case which involves diagnosing and history and quiz, and then given a so-called short case, in which some particular thing is pointed out to him and he is asked to discuss it for ten or fifteen minutes. The examiners then question, and that same process is gone through in all the different branches. That is of course an entirely different procedure from that of the ordinary State Board of Examiners, and gives a much better idea of the capacity of the man to practice medicine. Then the character of the examiners is quite different. There is no question that in the ordinary State Board we get a great many very competent men so far as conducting the required type of examination is concerned, but the one feature in which the character of the examiners of the National Board differs is that whereas in many states teachers are excluded as examiners from the State Boards, nearly all the examiners from the National Board are teachers. All of the examinations in Connecticut are conducted in the New Haven Hospital, for example, and practically all the examiners are men on the staff of the Yale Medical School. I think probably the important consideration is that the men on the State Boards of Examiners recognize the fact that the examination is of a type that they are willing to concede will bring out the ability or lack of ability of the individuals to practice medicine. Then of course there is this to be said: practically all of the men who appear for examination in clinical exercises have already passed a very stiff examination in the pre-clinical subjects so that when they do reach the clinical examination or Part 2 they have been pretty well weeded out.

General Discussion

DR. LEIGHTON: Since the Connecticut law has been in effect hasn't the Board been reconstructed? Hasn't it worked out well with this Basic Science Law and the Healing Arts Board?

DR. ROWLEY: Yes, we think it has helped a great deal. We used to flunk fifteen per cent.; now we don't reject more than five or six per cent. It does more than that. A great many men who would naturally drift in to Connecticut find that they have to come before a pretty stiff board first, and that is an important obstacle to a great many, so that when our Medical Examining Board gets them the less well qualified men have been eliminated.

DR. LEIGHTON: Wouldn't you think with a Board of Osteopaths and Chiropractors in Maine that it would be applicable and better if we were to have a Board of Healing Arts or a Basic Science Law?

DR. ROWLEY: I should think so. Everybody has a fair chance.

DR. BLUMER: What proportion of chiropractors and osteopaths get past the Basic Science Law?

DR. ROWLEY: I can't tell you that. I asked the assistant secretary but she could not tell me. They have about a hundred candidates a year and flunk fifteen per cent. She says most of them come up for regular medical examinations. Many of those that applied prior to appearing before the other boards do not get by because of the basic science requirements.

DR. BLUMER: Since that law has been in effect it is a very efficient filter against chiropractors and eclectics.

DR. LEIGHTON: Do you have any difficulty with men who style themselves "professors"? In Maine we are having difficulty with a certain cult known as "Naturopathy". We have two in Portland who call themselves "professors". They can't use the word "doctor". Our law is good inasmuch as they can't use the prefix Doc-

tor, but they get around it by calling themselves professors.

DR. ROWLEY: Those men don't get by our Board of Healing Arts.

DR. LEIGHTON: But can they practice?

DR. ROWLEY: Nobody can practice anything except those systems that are specifically excluded unless they have passed the examinations of the Board of Healing Arts. There are the podiatrists and the Christian Science practitioners who do not appear before the Board of Healing Arts. There is always going to be that problem. We believe the Board of Healing Arts will probably be the solution. I think we are very much more liberal about admitting men from other states now than fifteen years ago. We don't very often exclude a man except perhaps on moral grounds.

DR. RICKER: I think we owe Dr. Rushmore a whole lot for this very splendid paper. There are two or three things that impressed me especially in this connection. He spoke of defining the practice of medicine as the law exists in many states. I would say look out for a joker if you are going to define the practice of medicine in any legislation. They have had this same question in Vermont, and a member of the Legislature brought in the best definition of the practice of medicine that I have heard. Then within the last minutes of the session and after the doctors were all perfectly satisfied, some outside group became very crafty, and slipped in a line very ingenuously that it shall not apply to anybody but the M.D.'s. Therefore, you have the definition of the practice of medicine confining us, and the cults are as free as the birds of the air to fly and act wherever their pleasure dictates. Therefore I say be very careful how you frame your legislation. So far as the law is concerned, I don't believe you can in Vermont convict one of them for anything. If you are going to define the practice of medicine, watch the bill until the Governor has signed it and it has been recorded in the archives.

I want to differ a little with Dr. Rushmore. He and I went to school together and graduated a year or two apart and our work has been divergent. A number of years ago I attended a meeting of the Council of Medical Education in Chicago and a statement made by one of the doctors there was a revelation to me and I think that we are beginning to come around to the idea that there are a whole lot of things taught in medical schools that could well be omitted. If there is any school that teaches technical facts it is the M. I. T., and I am not so sure but that their graduates may know as many technical facts about their particular sciences as the medical school graduates do about medical science. If we should take a carefully selected group of high school graduates and start them with those studies in science and anatomy and physiology I am almost ready to advocate that the college end of it might be left out—careful selection of the high school men and starting them in medicine on say a five-year course. I believe it could be done and to great advantage.

In regard to examinations, Dr. Blumer may speak authoritatively, he is a very much better man than I. I have never been a member of the State Examining Board and yet I have written a great many examination papers and corrected their answers. Some colleges in taking in the freshman class call for the entire school record of the student for his four years in preparatory school, the subjects he has taken, the hours, his marks, the laboratory course, his notebooks, personal recommendations from his teachers, and then give him four examinations on his senior year work, and his admission depends upon this entire record and not on the examinations alone. The whole idea of this is to find the right type of boy to enter the school. Twenty-six or twenty-seven years ago I went to Montreal and took competitive examinations for an internship. They were entirely oral given by four different men and lasted 10 or 15 minutes each. I went into one man's room and he never asked a technical question but he knew more about me when I got through taking that examination than he would if he had examined me with pencil and paper for three days. I remember the examination of the National Board of Ophthalmology which I took in New York City ten or twelve years ago. We had three questions and I have forgotten two of them. One was a technical question, very short and elementary. If you knew the answer, you knew it, and if you didn't you flunked. The next day we went through eight different tests and oral examinations, and when they got through with you they knew whether you knew how to practice Ophthalmology or whether you didn't. I believe the prevailing methods of the state examining boards are not entirely correct. I remember some of the papers that I have seen where I could not tell whether the candidate was fit to practice medicine. I believe your state board examination fails in a certain percentage of the cases unless you have an oral examination. I believe an oral examination is necessary to classify your candidates, then you can judge a man. If you give him a clinical examination, watch your candidate and his attitude toward the patient, you will know pretty quickly. Another thing we fail to find in written examinations is how much of his ability consists of technical education and how much of salesmanship. I do want to emphasize what I think is the best thing that has been said this morning, by the gentleman from Rhode Island, I

think, that it is the renegade physician in our own ranks who gives us the most trouble and I do not know how we can cope with him.

DR. DAVIS: I have listened with pleasure and interest to the paper and to the discussion. These problems vary in the several states and they have to be handled differently. In Maine we have a small number of irregulars outside our state association. There are not more than 200 men practising medicine in Maine who are not members. The state associations can help greatly and should be in closer touch with the State Examining Boards. The office of the secretary of the state association is in position to help to a large degree in determining, not only the qualifications but the character of the men who apply for registration in medicine. Of course, when it comes to laws, they are no better than the men to whom they are entrusted for enforcement. In the matter of the personnel of our state examining boards, of course the state must endorse them, the governor and the council must approve of them, but I think they should be drawn from a panel supplied by the state association or some representative committee of medical men.

As to reciprocity, the time will come when there will be a satisfactory reciprocity among states. It seems to me the standardizing of our schools and hospitals has been a long step forward in securing a better condition of affairs and the time is coming when the presentation of a diploma from an accredited medical school will make it unnecessary for our states to conduct a formal examination of those who seek registration. That time is coming. Probably conditions in the several states are not uniform enough to make it possible just now, but it does seem ridiculous, with the manifestly high standards of our medical schools that after taking stiff examinations and passing the required length of time in study graduates should be called upon to take the formal examination of any other board. I think all of us in New England are proud of Massachusetts in the way she has come to handle her governmental and social problems. If she is lacking at present in the matter of medical registration I am sure she realizes the fault and is on the way to improvement. We have to realize that conditions can never be quite the same in every state and there have to be modifications of rules and regulations to fit the local conditions.

DR. BLUMER: In Connecticut, members of the State Board are nominated from the State Medical Society.

DR. RICKER: They are in Vermont too.

DR. WILKINS: I am sorry I cannot carry on what I would call a constructive discussion of this subject. What I have to say is more in the nature of comment. The thoroughly admirable paper of Dr. Rushmore is just what one would expect from him, as he usually presents just such a paper.

One thing that has not been considered very much, but has been touched upon only, is the question of what happens to the practitioner after he has been licensed. I agree with the last speaker that the ideal situation would be for state boards to license applicants after they have passed the examinations which graduate them from Class A medical schools. It seems to me that the function of the state board of medical examiners, so far as examining these individuals is concerned, could be done away with, but not the police duties, looking after the man and the type of work he carries on after he has gone into practice. That is one weak point in the conduct of the medical practice acts as I see them, and I think we are all apt to overlook or gloss over the failures that occur from that lack of supervision. We know there are men practising medicine today who from the standpoint of other gentlemen and men of honor are those whose practices are not being conducted in the way that they should be. I think all of you can think of more than one man, practising in your state, who is not conducting himself in an honorable way, and yet he is not doing anything illegal. That is the point. A graduate of a medical school in seeking admission to practice medicine is hedged around with restrictions in obtaining a license, but after that is obtained no attention is paid to him unless he does something illegal or commits some gross indiscretion. The question is what is misconduct. The misconduct that is injurious to the public should receive more consideration. We talk about protecting the public from the cults. If we protected the public from the type of physician that none of us commend, I think it would protect the public against gross misconduct to a great degree, and would be as important as protection against the cults. I think the entrance of the cults into the healing art, is in a great measure due to the errors of some of the practitioners of medicine.

DR. SULLIVAN: Before we close this subject I think it is expedient that from our deliberations something tangible, something worth while, be evolved and brought back to the different state societies, hoping thereby that these six states grouped together as New England may arrive at some common ground for the benefit of the profession and the public. So far, it has been like an experience meeting in a church. We have heard from the executive officers of the boards of licensure and now we are getting a response from the other fellows. I feel that there are many things connected with the duties of the licensing board today that have worked to the detriment instead of to the benefit of the profes-

sion. We work night and day to erect barriers to our own progress. We are attempting to protect the public by sifting the chaff from the wheat, and at the same time we are just building around ourselves obstructions and circumscribing our efforts, while the other fellows are reaping the benefit of our supposedly constructive work. A granite tablet erected by one of our Concord granite firms at its own expense, marks the boundary line between Massachusetts and New Hampshire on the Daniel Webster highway. Why penalize a physician by refusing him the right to maintain offices on both sides of that line unless he be licensed by both states? Do civil engineers work against themselves by prescribing that one of their profession shall not go into a particular territory and practice his art? Haven't we faith enough in the medical colleges approved today as grade A schools to accept their verdict that a man is competent to practice medicine and not demand an examination by a board from which those very college professors are excluded? A case in point: Up in New Hampshire there is a great cry against the failure of the medical profession to supply adequate medical supervision to the rural districts in times of physical and mental stress. One of our young men graduated at Harvard and was an interne of the Peter Bent Brigham Hospital. In the fullness of his heart he thought he would like to open an office in a small town in New Hampshire, his native state, and he decided to locate in a town which had been deprived of its only physician. This happened at a time when the examinations in New Hampshire were several months in the future. He was in a dilemma. He wanted to get busy in the active summer season. He was told he could go to Vermont a month or so hence and take an examination there. That took time and money. Subsequently, through reciprocity, he was licensed in his own state. I submit, gentlemen, that a noble profession like ours should not stand alone, different from nearly all the other so-called learned professions, and approve laws to our own loss and the detriment of the public oftentimes.

Upon motion, duly seconded, it was

Voted: That the time and place of the next meeting be left to the Executive Committee.

Adjourned for luncheon.

Called to order at 2 P. M.

DR. BLUMER: Are there any questions upon this subject?

DR. BOWERS: There has been a movement in the Massachusetts Medical Society by the Committee on Ethics and Discipline to try to have the Massachusetts law changed so as to take from the Board of Registration the disciplinary powers which it has under the existing law, although since there is in the law a provision that an appeal from the decision of the Board may be made to the Supreme Court of the State. That has been tried repeatedly and in only one instance has the Supreme Court revoked the decision of the Board of Registration. If matters which are brought up with reference to disciplining a practitioner should be taken from the Board and referred to the courts. It seems to me that it would deprive the proper body of an adequate evaluation of many of the irregularities in the practice of medicine. The Board can consider the behavior of the accused, his reputation and the details of the act which is objected to in a complaint, whereas, as you know, if the matter gets into the courts it becomes a technical procedure under the laws of evidence and rules of the courts which in many instances absolutely prevents examination of some of the facts relating to a particular case so far as the practice of medicine is concerned. It seems to me that it would be very well for this Council to express an opinion, or if it felt disposed to go any further to pass a resolution affecting this particular movement.

For example, if you all feel that it is a better procedure when a person is the subject of a complaint with reference to medical practice that the matter should be referred to the courts, that would have its proper influence. If, on the other hand, you think that the function of disciplining such a person should be retained in the Board of Registration that would also be of importance. You gentlemen represent the sentiment which exists in the different states to a very large degree and I am raising that question because I would like to have Dr. Rushmore, who is the Secretary of the Massachusetts Board, express his opinion with reference to this particular matter.

DR. BLUMER: In connection with what has just been said, I would simply point out that when the lawyers get into trouble they don't refer it to the courts; they have a disciplinary committee that takes care of the matter.

DR. RICKER: I would like to ask in that connection if Dr. Bowers meant simply the revocation of his membership in the Society or his registration by the Board?

DR. BOWERS: It is only with reference to revocation as a state function.

DR. RICKER: Would that be possible under the general law of the state; would it be constitutional?

DR. BOWERS: The proposed suggestion is to take the disciplinary power away from the board and have it referred to the courts.

DR. RUSHMORE: In considering the medical practice act, there are many points that come to

one's mind which I could not discuss, and many aspects of the questions involved to which I could not even refer. The main thing I had in mind was to call attention to the fact that in some important respects we have not grown up, and that is the situation. We have not really grown up and the law itself shows an unequal development of its two sides. It is just as though the right side of the body had developed to about the stage represented by fifteen years, with full maturity at twenty-one; that is, the side representing unlicensing of physicians had developed possibly to the age of fifteen; and the licensing of physicians, that other side of the body, had developed perhaps to the age of eight, distinctly behind the right side. As I have said this phrase which introduces the matter of professional conduct, "gross misconduct in the practice of the profession", is a relatively new element in the law. It will, I think, in time transform the law, both as regards the spirit and many of the details of procedure.

In regard to some of the points which I did not mention, I may say that I catalogued the exceptions and exemptions from the medical practice act in the different states, and it is extremely interesting to note what kinds of people are allowed to practice medicine, though not physicians. Here is another example of how childlike we are. The odds and ends that are exempt from the medical practice acts are really amusingly diverting. We have to take into consideration the fact that there are now persons who are legally permitted by the law to practice, who under any reasonable medical act ought not to practice, and that it is perhaps not possible to enact a law which will take away from them their right to continue to practice. For changes for the better we shall have to look to the future along the lines of rather slow evolutionary development and the prevention of increase in the ranks of these untrained practitioners.

The renegade physicians to whom reference has been made are very difficult to deal with under the present law. The only way to get a hold on them, except in the case of crime, and this is often difficult, is when their behavior may be regarded as unprofessional conduct. But in large part this evil is to be traced back to the medical school, for that is where some responsibility should rest; such persons ought not to have received a diploma in the first place. In this connection, the value of the educational procedure is considerable, and the importance of the year of internship is great. The intern practices under supervision and you can then find out much more quickly than by any written examination ever devised, what is his character, and what are his attitudes toward the profession and his patients. The practical objection to having candidates for licensure handle patients as a part of the examination is that in Massachusetts we had one hundred and twenty-nine candidates at the November examination, one hundred and seventy-nine in July, and perhaps one hundred and fifty in March. The carrying out of such a procedure is beyond the resources of the Board now provided, and the value of a short period examination is greatly limited.

Concerning the particular question that Dr. Bowers had in mind, I would say that it is on the basis of professional misconduct that many of these cases have to be handled. This is something outside the ordinary penal law, as it comes before the Court. It is a matter of professional standards and conduct, and it is not ordinarily the place of the lawyer to decide what is professional conduct on the part of the physician. It is incongruous not to say illogical to take it from the Board, a group of physicians, and place it in the hands of any other body.

Recently in Massachusetts there has been handed down by the Supreme Court a decision of unusual importance for the Board. The license of a physician had been revoked for what the Board regarded as professional misconduct. The physician had not violated the criminal law; he had not performed an abortion; but it was the testimony of a state detective that he had agreed to perform an abortion. He appealed from the decision of the Board, which recourse is duly provided by law. The case was reviewed by a single Justice of the Supreme Court who rendered a decision against the Board and ordered the license to be restored. Appeal by the Board to the Full Bench was answered by an opinion handed down recently, in October, 1931. The decision of the Full Bench was that the physician should keep his license as the Board had taken it away after an unfair hearing.

Now in what did the unfairness consist? The opinion noted two points: some of the remarks made by some members of the Board during the hearing tended to show prejudice, and the Board had abused its discretion in unduly restricting the right of cross-examination by counsel for the physician. There are several other points noted by the Court, not bearing on the decision adverse to the Board which I need not particularize now. But the opinion is of importance as bearing on the question raised by Dr. Bowers, because while it reverses the decision of the Board in this particular instance, it strengthens the general position of the Board. It is on this account, I suppose, that the general powers of the Board have been recently criticized.

This criticism has been formulated by saying that the Board acts as judge, jury and prosecuting attorney. That is not true. The Board does not prosecute, it is not an advocate. The procedure of the Board in Massachusetts, at least, is

quite different from the ordinary procedure in criminal courts, because especially there is the old idea preserved of a trial by arms (or wits), "trial by battle", an advocate on each side, each trying to get the better of the other. The procedure is hedged about with technicalities. The judge at times is almost powerless as to having anything brought out except what one or the other of the advocates can get presented. It is generally recognized that in our criminal courts the attainment of justice is beset by many difficulties.

Procedure before the Board, although not judicial in the technical sense, is by due process provided by law, and is freed from many of the technicalities that sometimes embarrass the courts. The Board is not an advocate, and it does not prosecute. It is judge and jury, but what it wants to do is to bring out all the facts in so far as it is possible to ascertain the facts, and its powers under the laws of Massachusetts are fairly adequate in this respect. May I refer again to what I said about punishment? There is in fact, in the revocation of a physician's license, an element of punishment, yet it is not punishment of the individual but protection of the public that is the object of the law, and the medical practice act cannot be regarded as a part of the penal code, in so far as the activities of the Board are concerned.

The question before the Board is, "Is this physician a safe person to practice medicine in Massachusetts; is he the kind of person who is to be trusted in the practice of our profession?" That is the question for the Board to decide, and it is not a question of punishment. The Board is empowered to secure evidence on that point and has power to subpoena witnesses. To take from the Board this power to revoke a license is in substance to destroy the most progressive features of the law. The power of the Board is that of continuing regulation, not simply to license and then forever forget, but to regulate the practice of medicine throughout the duration of the practice.

To take this power of continuing regulation from the Board would be a long step backward, and I think that those who favor it are not aware of just what is going on in medical practice procedure, are not aware of the kind of thing that medical practice procedure does. This is one of the important factors entering into the situation in our several states. There has been incorporated in our laws, a comparatively new idea in effective medical practice legislation, which is itself a most hopeful sign of the progress which we all most earnestly desire.

The President stated that as none of the committee on the proceedings of the previous meeting were present that report would be deferred until the next meeting of the Council.

There being no further business, it was

Voted: To adjourn.

Adjourned at 2:30 P. M.

MEDICAL CARE AND TREATMENT OF MERCHANT SEAMEN AND OTHER BENEFICIARIES OF THE PUBLIC HEALTH SERVICE

In 157 ports of the United States and its possessions, hospital care, out-patient treatment, and other medical services were furnished by the United States Public Health Service to American merchant seamen and other legal beneficiaries during the fiscal year 1931. Although 90 per cent. of the hospital treatment is furnished in the marine hospitals, the Public Health Service maintains contracts with 196 public and private hospitals in the smaller and remote ports. Merchant seamen continued to be the most important class of beneficiaries, receiving 3.3 per cent. more hospital treatment and 14 per cent. more out-patient relief than in the preceding year.

The medical services furnished for the Employees' Compensation Commission would, it is estimated, have cost the compensation fund more than $1,000,000 if obtained from private sources. A daily average of 842 patients of the Veterans' Administration were treated in marine hospitals in ports where the use of these institutions has made the construction of special hospitals unnecessary. Coöperation with the Veterans' Administration has been close and cordial.

For all classes of beneficiaries an aggregate of 1,666,215 hospital patient days and 910,466 out-patient treatments were furnished, and 94,487 physical examinations made for purposes other than medical treatment. The number of leper patients at the National Leper Home operated by the United States Public Health Service at Carville, La., increased from 308 to 337 during the year.

Satisfactory progress has been made with the building program. Construction of the new marine hospitals at Galveston, San Francisco and New Orleans has nearly been completed and work has commenced on the Seattle institution. The contract has been let for the addition at Key West. Architects are engaged in the preparation of plans for the new marine hospital buildings at Stapleton, New York, Baltimore, Norfolk, Louisville, Chicago, Evansville, Detroit, Memphis and Mobile. The building program not yet provided for includes additional or improved hospital facilities for the National Leper Home and the marine hospitals in Boston, Buffalo, Pittsburgh, St. Louis, Portland, Maine, and Fort Stanton, New Mexico. — *United States Public Health Service.*

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 18091

A PROBLEM IN THE ETIOLOGY OF EDEMA

MEDICAL DEPARTMENT

First admission. A Finnish laborer forty-two years old entered May 24, fifteen years before his second admission, complaining of swollen feet and general weakness. The history was taken through an interpreter.

Four weeks before admission he had a slight cold followed by drowsiness, shortness of breath and edema at first of the feet, ascending to the thighs, scrotum, abdomen and face. For two weeks he had had a slightly productive cough. Ten days before admission he gave up work because of weakness. For a week he had been in bed. For two days he had had blurred vision. At admission he was faint, dizzy and had poor appetite. At the second admission, fifteen years later, he said that all these symptoms followed a truck accident.

His mother died of tuberculosis, to which he was exposed as a child. For the past year he had worked as a freight handler. Previous to that he worked as a dye factory operative, handling dyes.

In childhood for eight or ten years he had tonsillitis once or twice a year. During the past year and a half he had had periodic headaches accompanying attacks of constipation every few months with aching in the upper abdomen, sometimes with vomiting; all the symptoms were relieved by catharsis.

At clinical examination the eyelids were slightly puffy. The apex impulse of the heart was in the fifth space 12.5 centimeters to the left of midsternum, 2.5 centimeters outside the nipple line. The left border of dullness was 14 centimeters from midsternum, the right border 3.5 centimeters. The pulmonic second sound was slightly greater than the aortic second. The sounds at the apex were normal, at the base very faint. There was a soft systolic murmur at the apex heard in the axilla, the pulmonic area and the vessels of the neck. The blood pressure was 140/80 to 195/95. There was considerable edema of the lower legs. There was marked phimosis. The pupils and reflexes were normal.

The amount of urine was 28 to 128 ounces, the specific gravity 1.004 to 1.018. There was a trace to a large trace of albumin at 9 of 11 examinations, a slight trace at 2. The sediment showed many red and white cells, granular and cellular casts. The renal function was 40 per cent. The non-protein nitrogen was 30. The blood was normal. A Wassermann was strongly positive.

X-ray examination showed the chest fairly clear except for masses of glands at the lung roots. The excursion of the diaphragm was limited, more on the right. There was probable fluid in both chests. The heart measurements were left 12.8 centimeters, right 5, great vessels 8, length 18, base 9.

The chart was not remarkable.

The patient was given salvarsan, digifolin and forced fluids. The fluid at the lung bases disappeared. On June 17 he was discharged relieved.

History of interval. For most of the fifteen years before his second admission he worked on a farm. Until six years before the second admission he used alcohol in moderation. For the past six years he had used none. For six months he had noticed, especially in rainy weather, that at the end of the day his ankles were swollen. Four months before admission he "caught cold"—had chills and fever and continual cough with much whitish sputum. This had persisted with some exacerbations. For four months his bowels had been constipated. For the same period he had urinated eight to ten times by day and three to four times at night and had also had considerable difficulty in starting the urinary stream, and pains in the costovertebral angles in raising his arms. Since the onset he had spent most of the time in chair and bed. For the past three weeks he had been in bed all the time and had had increasing dyspnea when at rest. For two weeks he had had difficulty in expiration. For a week he had had considerable gas. For the same time the joints of the left little finger had been swollen, red and tender. For the past three days his ankles had been swollen all the time. During the past eight months he had lost 40 pounds.

Clinical examination showed a fairly well developed old man lying flat, moderately dyspneic, with some pallor of the skin and slight cyanosis of the lips. The teeth were dirty and worn down. There was slight pyorrhea. The nasal septum was deviated to the left. The apex impulse of the heart was seen and felt in the fifth left interspace in the nipple line. The left border of dullness was 11 centimeters from midsternum, 2 centimeters outside the midclavicular line. The supracardiac dullness was 8 centimeters, the right border 3. The action was regular, the rate rapid. The sounds were of fair quality. There was a whistling apical sys-

tolic murmur, not transmitted but heard also at the base. There were no aortic or mitral diastolics. The blood pressure was 195/120 to 285/130. The artery walls were palpable, hypertrophied and tortuous. There was a tendency to barrel chest. The lungs were clear in front. At the right base in the back there was slight dullness with diminished tactile fremitus and breath sounds and crepitant râles; no egophony. At the left base posteriorly there were râles without other signs. The liver was just palpable on inspiration. There was marked phimosis. The left leg was atrophied and at least two inches shorter than the right. The head of the left femur was probably riding above the acetabulum, with limitation of rotary motion of the left hip. There was crepitus in the knees, especially the left. There was marked pitting edema of the lower legs, also of the sacrum. The right pupil was tremulous, with dislocation of the lens. There was myopia. The pupils were otherwise normal. The reflexes were normal.

The amount of urine was 90 to 29 ounces, the specific gravity 1.011 to 1.022. There was a trace to a large trace of albumin at all of 10 examinations. The sediment showed 1 to 6 white cells at all of 7 tests, 2 to 19 red cells at 6, rare hyalin and granular casts at all. Blood examination showed 7,850 white cells, polynuclears 76 per cent, hemoglobin 60 per cent, reds 2,820,000 to 3,350,000. The platelets were increased. The smear was otherwise normal. The non-protein nitrogen was 140 at admission, 120 March 26, 200 April 2. The creatinin was 5.7 to 7.6. The carbon dioxide combining power was 50.8 volumes per cent March 19, 29.6 April 2.

The temperature was 96° to 99.5°. The pulse was 67 to 82, the respirations 24 to 32.

X-ray examination March 18 showed the diaphragm to be grossly irregular on both sides, apparently adherent at the costophrenic angle. There were also dense irregular bands of dullness superimposed upon the heart shadow on both sides. There was mottled dullness in the region of both lower lobes distributed along the course of the lung markings and the descending bronchi. The heart shadow was indistinct. At a second examination March 26 the interlobar septum on the right side appeared thickened. Both costophrenic angles were obliterated. The diaphragm was still high. There was considerable mottling at both bases and diffuse thickening of the lung markings. The aorta appeared tortuous but showed no evidence of dilatation. The heart measurements were right 5.1, left 10.3, length 14.4, base 3.7, great vessels 6.4, chest 27.5. The heart was partially obscured by the diaphragm and the mottling at the bases. Examination of the left hip joint showed the joint spaces narrowed, the head of the femur flattened. There was considerable new bone formation about the acetabulum and the head of the femur. The vertebrae opposite the sacroiliac joint showed hypertrophic changes.

Examination by an interne from the Eye and Ear Infirmary showed very high myopia of both eyes and the changes of high myopia in both fundi. There was no evidence of albuminuric retinitis.

The patient improved. By March 22 he had much less dyspnea, had lost his edema and had no headache or nausea. March 26 the non-protein nitrogen was down 10 milligrams, but the creatinin was increased and the blood pressure rising. He had an attack of cardiac asthma. March 31 the non-protein nitrogen was 160 and the carbon dioxide combining power down to 36 volumes per cent. He was mentally clouded and had a suggestion of Cheyne-Stokes respiration. From this point he gradually failed, had continual Cheyne-Stokes breathing, became unconscious and on April 3 died.

Clinical Discussion

BY MAURICE FREMONT-SMITH, M.D., WILLIAM C. MARTIN, M.D., TRACY B. MALLORY, M.D., AND ARVID LINDAU, M.D.

Dr. Fremont-Smith: The illness at the first admission may have been cardiac decompensation, although fifteen years is a long time for a man who develops cardiac decompensation to go. I do not however think it is too long. He could perfectly well have had an attack of cardiac decompensation, but it must have been very severe to give him as much swelling as that. Of course it is true that a cold or any other infection will break the compensation of a heart that is acting pretty well. Perhaps it is the increased amount of blood volume that results from the fact that infection cuts down the kidney output. The patient is thirsty, keeps on drinking water, and the kidneys do not put out water. You have heard my brother talk about this, I know. It may be that the increased volume is the cause of the cardiac break. On the other hand this edema seems too marked to be due to cardiac decompensation which could disappear and the heart recover to such an extent that the man was alive fifteen years afterwards. It may be possible that he had acute nephritis. We would assume that with nephritis he would have edema around the face, but again we know that edema appears in the dependent parts first. The blurred vision would be consistent with a diagnosis of nephritis rather than of cardiac failure.

Nephritics often have a poor appetite. Sometimes uremics will come in vomiting and one will think of intestinal obstruction. Of course the non-protein nitrogen will be increased in both cases. So there is often a nice question of differential diagnosis between obstruction of the

bowel and uremia. I think if we had to say at this point we should probably say that he had an attack of nephritis.

What else could give him generalized edema besides those two causes? Of course angioneurotic edema would be localized. It would not begin at the ankles and go up through the face. Even if he had been taking a tremendous amount of bicarbonate of soda, that would not give him so much edema as that.

We do not know what sort of dyes he handled, and I do not know enough about dyes to know their relationship to nephritis.

His childhood history was fairly normal except that one would feel that he had diseased tonsils.

Those periodic headaches with constipation, pain and sometimes vomiting may have been due to lead or to mere constipation. He was forty-two years old. Why should he begin to develop constipation? I wonder if there is something behind that in the shape of neoplasm. Some people get headaches with constipation; some do not. I do not think we can draw any conclusions from the headaches.

He had a very large heart.

The pulmonic second sound was louder than the aortic second. That is an interesting observation in a man with a heart as big as that. Why should the pulmonic second be louder? It should not unless he has pneumonia or mitral stenosis. I wonder if the observation was wrong.

With the diastolic pressure a little high we wonder whether it may not have been higher before. 195 will do very well as the blood pressure of chronic nephritis. The heart may be failing now, in which case the blood pressure would go down.

He was concentrating urine pretty well. The renal function is good. The non-protein nitrogen is normal. But the urinary sediment gives us an explanation for that edema. We have kidneys that show occasional red cells and white cells; in other words there is a subacute nephritis. Is there anything in that urinary examination to rule out cardiac decompensation?

A STUDENT: Would not the concentration test?

DR. FREMONT-SMITH: Not necessarily, because he may have been given too much water. What we are worrying about is his inability to concentrate. I did not know that he had a concentration test done. I think it is true though that in cardiac failure with this type of urine you would expect a higher gravity urine.

A STUDENT: How about the non-protein nitrogen?

DR. FREMONT-SMITH: It is not necessary to have a high non-protein nitrogen with acute nephritis with edema. A child can have nephritis and be swollen up from face to ankles with no change in non-protein nitrogen.

A STUDENT: Would you get red blood cells?

DR. FREMONT-SMITH: Yes; in acute, subacute or even chronic nephritis red cells may be present. It is chronic nephritis that gives a high non-protein nitrogen. Of course this urine, except for the gravity perhaps, could go with heart failure. We get albumin and casts and red cells in chronic passive congestion of the kidneys. I just mention that as a warning.

Those masses of glands at the lung roots on x-ray examination at the first admission are unexpected. They are very hard to interpret in the light of the fact that he lived fifteen years. I have never heard of a case of Hodgkin's disease that lived more than five or six years.

DR. MALLORY: We have one that has gone thirteen years.

DR. FREMONT-SMITH: Am I right that five years from the beginning is about the average duration?

DR. MALLORY: I should think less rather than more for the average case.

DR. FREMONT-SMITH: What else could it be?

A STUDENT: Old tuberculosis?

DR. FREMONT-SMITH: He could have calcified glands and they might be described as "masses of glands".

DR. MARTIN: I think the x-ray findings at the first admission are now slightly changed. During decompensation with the backing up of blood into the lesser circulation the hilus shadows look as if they were enlarged. Usually it is blood backed up in circulation.

DR. FREMONT-SMITH: So they may not have been masses of glands.

DR. MARTIN: No.

DR. FREMONT-SMITH: That throws us back upon decompensation again. Yet if he has had enough decompensation to give him edema all over his body it is very hard to think of his living fifteen years.

He had a large heart. I should think what he had was high blood pressure consistent with either subacute or chronic nephritis. But it may not be so; it may be primarily a cardiac situation. Evidently they felt that his symptoms might be explained by his blood.

I think they would be slow to give salvarsan nowadays if they thought the patient had a luetic heart. But if they were giving it with that thought in mind,—and I do not see how we can be perfectly certain that the patient has not a luetic heart,—I should be inclined to give mild treatment and go very cautiously in giving salvarsan. There have been accidents in relation to cardiovascular symptoms in giving arsenicals.

He was given forced fluids. That is interesting. They did not restrict his diet. I do not understand that. If they felt that he had primary heart failure they would have restricted fluids. Nowadays we should force fluids with

edema and nephritis. Fifteen years ago they would not have done it. I do not know why they forced fluids, if that is correct.

I do not know yet whether it was heart or kidneys. As the blood pressure is normal I suppose we must lean to the heart side.

DR. MALLORY: We have 195/95 as the blood pressure.

DR. FREMONT-SMITH: That would still leave me a platform to talk from,—hypertensive heart disease, chronic nephritis and some heart failure.

I should like to know what kind of work he did on the farm. If he did heavy work he could not have done it if he had had decompensation at that first admission. He could have done it if he had hypertension. He could have done it if he simply had nephritis.

Chronic nephritis might account for everything in the interval between his hospital admissions except the difficulty in starting the urinary stream. For that we have to assume some mechanical difficulty in the urethra or prostate. This man was forty-two at his first admission. Now he is getting to the age when the prostate can come into the picture.

I cannot explain the pain in the costovertebral angles on raising his arms.

Maybe he did have a little arthritis causing that swelling of the finger and ankles.

I think the case shows one how to look at a patient coming in with a blood pressure of 195. It is true that the younger the patient with high blood pressure the worse the prognosis. Nevertheless here is a man who comes in fifteen years later who had at his first admission a blood pressure of 195/95. The recording of the diastolic is just for interest. It is interesting that it was not 195/120, which would have been definitely worse. When you see a patient coming into your office with a blood pressure of 200 do not gasp or sigh or feel really too much disturbed. Older people especially can run on a high blood pressure for many years. Here is a man who did farm work for fifteen years after a blood pressure of 195. Of course the blood pressure may have gone down. If that first admission was for acute nephritis it is fair to say that the blood pressure may have gone down.

When he was examined he was lying flat. One would expect him to sit up. He would almost certainly sit up if he had much dyspnea from heart disease.

The apex impulse was found in the fifth space in the nipple line. If that observation is correct the heart has gone down again to normal. That would make us feel that he had acute nephritis at the first admission with high blood pressure, subsiding as the nephritis cleared up.

I would trust the apex impulse if it is seen and felt rather than percussion of the left border. On the other hand it is hard to see how it could be possible that he did not have a somewhat enlarged heart.

The supracardiac dullness is wide.

With a blood pressure of 195/120 to 285/130 he still has hypertension. That heart is not small. It is enlarged, because we do not have normal sized hearts with that blood pressure, that is, if that blood pressure continues for any length of time. During active exercise, when the blood pressure goes up to 250 or so, the heart becomes smaller, but if the blood pressure is kept up for any length of time the heart begins to enlarge.

The chest signs show evidence of fluid. I wonder whether the crepitant râles came down to the base. I rather think there was fluid at that right base, and the fluid did not come down as far as indicated. There is a little edema of the lung there. That is perfectly consistent with a failing heart.

One leg was atrophied and shorter than the other. He had had poliomyelitis in youth perhaps. It must have been before the full bony growth took place unless he had a dislocation.

You know how the lens looks when it is dislocated backward. It simply has nothing to rest upon, and shakes with movement of the eye.

I do not know how they knew there was myopia. We cannot tell myopia from the pupils.

The blood examination shows what one would expect with chronic nephritis, anemia. Always be suspicious of a diagnosis of chronic nephritis if you do not find anemia.

The x-ray findings of March 18 would be consistent with chronic passive congestion I suppose, but that septum you would certainly have to explain on the basis of infection, wouldn't you?

DR. MARTIN: Yes. There is fluid in the costophrenic angle and also under the sternum, partially obliterating the shadow of the heart.

DR. FREMONT-SMITH: That thickened septum appeared within a few days, didn't it?

DR. MARTIN: There is a trace of it in the first film. It is definitely increased. It may be due to shifting of the angle of the films.

DR. FREMONT-SMITH: Not necessarily to an interstitial process?

DR. MARTIN: It may not mean increase.

That picture is pretty characteristic of an old arthritic hip.

DR. FREMONT-SMITH: Would that account for the two inches shortening of the left leg?

DR. MARTIN: They described in their physical examination the head of the femur as riding above the acetabulum.

DR. FREMONT-SMITH: That man showed extraordinary resistance.

I should say chronic nephritis, hypertension, hypertensive heart disease, uremia, chronic passive congestion and possible bronchopneumonia,

but without any reason for saying bronchopneumonia except that that so often happens as a terminal event in these cases. I should also expect a pleurisy and should definitely look for a pericarditis.

DR. LINDAU: Perhaps he may have some syphilitic lesion too. He has a positive Wassermann.

DR. FREMONT-SMITH: He apparently has no aortic symptoms, has he?

DR. LINDAU: If he had a positive Wassermann after a good many years it would point in the direction of aortic syphilitic disease.

DR. FREMONT-SMITH: I should like to know whether he has a positive Wassermann now.

DR. MALLORY: It was negative in this last entry.

DR. LINDAU: That speaks against syphilitic aortitis.

DR. FREMONT-SMITH: I wonder if Dr. Mallory will bear me out as to the infrequency with which cases with positive Wassermanns and no clinical evidence of syphilis show syphilis at autopsy.

DR. MALLORY: As we do routine autopsies a great many cases with positive Wassermanns show no postmortem evidence of syphilis. If we looked for it long enough I think we might find it much more frequently, as Dr. Warthin did at Ann Arbor. To achieve such results, however, it is almost necessary to make a real "Arbeit" of each case.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Uremia.
Chronic nephritis.
Hypertensive and arteriosclerotic heart disease.
Latent syphilis.

DR. MAURICE FREMONT-SMITH'S DIAGNOSES

Chronic nephritis.
Uremia.
Hypertension.
Hypertensive heart disease.
Chronic passive congestion.
Possible bronchopneumonia.
Pleurisy.
Pericarditis.

ANATOMIC DIAGNOSES

1. *Primary diseases.*

Arteriosclerosis.
Malignant vascular nephritis.
Hypertensive heart disease.
Hypertrophy of the heart.

2. *Secondary or terminal lesions.*

Syphilitic aortitis.
Early bronchopneumonia.

3. *Historical landmarks.*

Hyperplasia of the prostate.
Diverticula of the sigmoid.

PATHOLOGIC DISCUSSION

DR. MALLORY: We found at autopsy a well marked nephritis. The kidneys weighed 300 grams, which is only a very little less than normal. Chronic passive congestion however may increase the weight of atrophied organs, and the fact that the cortex measured less than 4 millimeters is strong evidence of a contracted kidney. The surface was finely scarred and reddish, with the typical appearance of vascular nephritis. Microscopic examination essentially confirmed that. There were very marked lesions in the great majority of the small arteries and arterioles. The process had extended over to the glomeruli, some of which showed hyalinization, with foci of thrombosis in the capillaries and increase of endothelial cells. All of the findings however were quite consistent with the changes found in the more acute stages of vascular nephritis. Histologically it would be possible to classify this as a malignant vascular nephritis as Klemperer and some others use the term.

The heart showed very marked enlargement, weighing 750 grams. It seems surprising that at the last entry they did not get more definite evidence of it. The aorta did show a very definite luetic aortitis microscopically. In gross it shows very slight scarring and no dilatation at all. The microscopic changes were the characteristic foci of necrosis of elastica and muscular tissue. There was very marked atheroma of the aorta of a type which it seems to me I have seen more often in patients who have syphilis than in any others, a type in which the atheromatous masses measure as much as 2 to 4 millimeters in thickness, in contrast to the usual plaques, which average not more than a millimeter in thickness. It is also by no means rare for patients with syphilis to show the more acute or malignant type of vascular nephritis. I do not want to give the impression that syphilis is the cause of malignant nephrosclerosis; but it occurs with striking frequency in syphilitics. What the type of this nephritis was fifteen years ago I do not know. He may have had at that time an acute glomerular nephritis. If he had vascular nephritis at that time, true vascular nephritis in a man as young as forty, it would be rather unusual to have him live fifteen years more.

There was a very slight bronchopneumonia; no pericarditis.

He had a hyperplastic enlarged prostate, and diverticula in the sigmoid which may have had something to do with his constipation.

DR. MARTIN: Did you find anything in the interlobar septum?

DR. MALLORY: No, nothing.

DR. MARTIN: There was 500 cubic centimeters of fluid.

DR. FREMONT-SMITH: That may have been due to passive congestion of the lungs.

CASE 18092

PAIN IN THE AXILLA, COUGH AND SPEECH DEFECT

SURGICAL DEPARTMENT

DR. JOHN D. STEWART*: This is the case of a fifty-six year old railway engineer who was here for three weeks. In some points the history is not adequate because the patient was in no condition to give accurate detail.

As nearly as we could make out the past history had no bearing on the present illness.

The only symptoms referable to the present illness were noticed eleven months before admission. At that time there was a period of malaise associated with a slight productive cough, mucoid sputum tinged with blood being raised. At the same time there was a certain amount of pain and discomfort in the right axilla. After a few days the patient seemed to get over this and was able to continue more or less his normal routine. About three months later he had to call a doctor again, that time for similar symptoms except somewhat more marked. The cough was more productive and the pain more severe, although still in the right axilla. His doctor gave him diathermy treatments which seemed to relieve him, and with the help of general supportive treatment he regained health and went through the summer feeling fairly well. Three months before admission however his cough became more productive again, the pain became more severe, and this time instead of being limited to the right axilla it radiated across to the opposite side of the chest to the precordium and down the arm as well. A doctor was called again. He noticed that the patient had fever and confined him to a hospital. After a few days it was suggested that operation should be done on him. Under general anesthesia a portion of the ninth rib in the right axilla was excised and the lung was aspirated. Nothing was found, and the wound was closed. After he had been in that hospital for several weeks the patient's condition did not improve, so he was referred in here. At that time his doctor thought of the possibilities of hydatid cyst, unresolved pneumonia and lung abscess.

On admission to the Massachusetts General Hospital the patient was in rather poor general condition. The state of nutrition was fairly good however. He had a relatively negative general examination, the points of interest being chiefly in the chest. The blood pressure was 145/90. There was dullness over the lower half of the right lung with diminished spoken and whispered voice and diminished tactile fremitus, but no egophony and no râles were heard. The right leg seemed weak, and to a less degree the right arm. He seemed to have also a right facial weakness of the central type.

The laboratory studies showed that he had slight secondary anemia. The red blood cell count was 4,000,000, the hemoglobin 65 per cent. The white count did not vary much from 11,000. The urine was negative. A Hinton test was very weakly positive.

The temperature was 101° on admission. The pulse rate was above 100.

The patient was somewhat disoriented. There was a definite speech defect. The patient seemed to know what he wanted to say, but was unable to speak the words. There was intense emotional disturbance associated with this weakness; the patient wept on slight provocation.

X-ray examination showed that there was diffuse homogeneous dullness involving the lower half of the right lung and a cavity in the lower lobe with a definite fluid level. X-rays of the skull were negative.

The patient was seen by a neurological consultant, a medical consultant, a neurosurgical consultant and an ophthalmologist. They verified the findings already obtained. The question of bronchoscopy was brought up. It was thought inadvisable because of the seriousness of the patient's condition. Encephalography was also considered, but that too was given up for the same reason.

While he was in the hospital the patient raised sputum varying from half an ounce to three ounces daily, not definitely malodorous. Repeated examinations showed many organisms of mixed types with no spirochetes or tubercle bacilli. A lumbar puncture was essentially negative. The fluid showed a positive alcohol and a slightly positive ammonium sulphate test. There were four white cells and 900 red cells. No pressure readings were obtainable, but as far as we could tell there was no evidence of increased intracranial pressure.

The patient's condition slowly went from bad to worse. The temperature remained elevated all the time. It was sustained more or less. The pulse rate went up to 120. The patient became incontinent of urine and feces, slowly lost strength and died three weeks after admission.

CLINICAL DISCUSSION

DR. FREDERICK T. LORD: The clinical picture was suggestive of malignant disease primary in the bronchus with secondary involve-

*Resident on the West Surgical service.

ment of the pleura. Lung abscess without malignant disease was also considered, but was thought less probable. The physical signs were consistent with bronchostenosis, but in view of the cerebral complication bronchoscopy was thought undesirable. Operative interference was considered but regarded as inadvisable.

DR. W. JASON MIXTER: I should agree with Dr. Lord that there was a possibility either of abscess or of neoplasm, with neoplasm as perhaps the most probable diagnosis. I suppose that either neoplasm, or abscess of the lung might give an abscess in the brain. The brain metastasis would not necessarily be neoplasm even if the original focus in the lung were. The patient's condition seemed so precarious that we felt that exploration of his head was out of the question.

One of the most interesting points concerning this case was the extreme mental disturbance, the emotional upset which occurred as part of the picture. It seems to me that that is rather unusual in either abscess or neoplasm situated so that it would cause interference with the internal capsule as this one apparently did.

DR. AUBREY O. HAMPTON: This film does not look exactly like that in Case 18011*, but it does look very much like it. There are multiple cavities and they are very irregular. We had much difficulty with this patient, as one would expect; he could not coöperate very well. The fluid levels were demonstrated. The bifurcation of the trachea is well shown. Because I am not accustomed to seeing the trachea in an ordinary chest film, I do not pay much attention to it.

When I came out to the postmortem and found that there was a big tumor at the bifurcation I wondered if we could have said that antemortem.

DR. EDWARD D. CHURCHILL: It shows on the lateral film too. I think the bronchoscopists might have found a widening of the angle of the bifurcation of the trachea. They can pick it up quite easily by inspection of the carina.

DR. GEORGE W. HOLMES: This case does not show the constriction of the bronchi that Case 18011 did.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Lung abscess.
Lung carcinoma—metastatic?
Brain abscess.
Metastatic brain tumor?

ANATOMIC DIAGNOSES

Carcinoma of the right lung with abscess formation.
Metastases to the brain.

*Published January 7, 1932.

PATHOLOGIC DISCUSSION

DR. TRACY B. MALLORY: Autopsy showed a very extensive carcinoma of the right lung involving the entire lower lobe and the lateral half of the middle lobe. The entire central portion of the tumor consisted of an abscess cavity, the abscess being brimmed by tumor all the way around. The lung root was markedly enlarged, quite different from that in Case 18011, in which only the nodes of the hilus of the lung were enlarged. In this case the nodes resting beneath the bifurcation were the biggest and might easily have spread the angle. The tumor had grown directly down through the diaphragm and had extended to and finally into the liver to a considerable extent. It seemed to be a process of direct extension rather than of metastasis.

DR. HOLMES: Was the portion of the bronchus affected in this case lower down than in Case 18011?

DR. MALLORY: Yes.

Metastases were found in this case in the brain, the largest single one being in the left frontal lobe; there were also multiple small metastases. In gross it was very difficult to tell whether these lesions in the brain were due to abscess or tumor. We did not feel sure about it.

Microscopic examination shows the lesion in the lung to be a very typical, fairly well differentiated squamous cell carcinoma, the commonest type of cancer in the lung, the type that quite certainly must arise from the bronchial tree.

The sections from the brain show scattered areas of tumor, diffuse enough in distribution to account for the difficulty in locating the process.

As just an accidental finding—the history so far as I remember gave no clue to it at all—he had several ulcers of the stomach, one being a fairly acute process with a fibrous exudate at the base of the inflammatory process running down through the muscularis to the serosa. The other two ulcers were apparently healed.

FURTHER DISCUSSION OF CASE 18011

DR. CHURCHILL: I should like to ask Dr. Holmes whether he thinks there is any widening of the angle of the bifurcation of the trachea.

DR. HOLMES: I should not think so. Of course there is a considerable variation in normal people. Just what that is I do not know. We do not see the right branch as well as the left. A tumor of the bronchus ought to obliterate the lumen to some extent. These lines that run up into the lung field from the hilus of the lung have been spoken of as being present in malignant disease, but I am quite sure that that is not always so. They suggest it, but they are not positive evidence.

DR. CHURCHILL: We are very anxious now

to get some normal standard for the angle between the left primary bronchus and the right if we are to use a widening of the angle as a sign of metastatic involvement of the mediastinal lymph nodes.

DR. HOLMES: One of the most common causes for spreading of the angle is enlargement of the auricle of the heart in mitral disease.

* * * * * * * * *

DR. LORD: With respect to the diagnostic bearing of blood in serous effusion, it is desirable when bloody fluid is found to collect several separate samples of the fluid at the time the thoracentesis is done and to note the amount of blood in each, as is done on spinal fluid. There is always a question whether or not the blood is the result of trauma during the procedure; if so successive samples are likely to become less and less bloody. It is also desirable to do white and red cell counts as well as differential counts of the white cells on bloody fluids to determine the extent to which the white cells may be attributed to the effused blood. We are constantly confronted with the difficulty of differentiating effusions due to malignant disease and to inflammation. Is it possible to determine the malignant nature of an effusion from the character of the cells?

DR. MALLORY: It sometimes is, Dr. Lord, but in my experience rather more often it is not. I suppose in the course of a year we have nearly twenty specimens of either pleural or ascitic fluid sent over as questionable cases of carcinoma and we endeavor on those to find something we can recognize as tumor cells. I do not think that on the average we find them in more than three out of twenty. The rest of the time we find nothing even in cases of frank carcinoma. Once in a while we find a little mass of tumor cells as to which there is no question at all. Recently we have had two or three cases diagnosed positively in that way; but I remember an interval of over a year when we did not succeed once. It is quite possible that with the supravital technic we could distinguish single tumor cells from phagocytes or desquamated mesothelium. At the present time I do not feel able to do it.

DR. LORD: Is there any advantage in studying the cells in sections of the clot?

DR. MALLORY: That is what we try to do in the hope that we may find a sufficient number of tumor cells that we can recognize. I do not know any criterion for recognizing a single tumor cell as certainly neoplastic except perhaps the multinuclear cells such as we find in Hodgkin's disease.

FROM AN UNPUBLISHED DISCUSSION

DR. LORD: With bronchial neoplasm there is a fairly typical evolution and grouping of symptoms. A persistent cough following a "cold" may be the first manifestation. The cough is likely at first to be dry and after some time accompanied by scanty mucoid or mucopurulent and not infrequently blood-streaked or bloody sputum. At times hemoptysis is the first symptom, and recurring hemoptyses may occur at long intervals with complete freedom from any significant symptoms in the interval. The time of occurrence and degree of dyspnea depend on the size of the involved bronchus and the degree of obstruction. If the affected passage is large, dyspnea may be an early symptom. Wheezing is at times noted by the patient and may be present only on lying on the affected side. Pain is seldom a prominent feature. When it occurs it is usually due to pleural involvement. Some elevation of temperature may be expected in about half of the cases. Much help in the diagnosis of neoplasm can, I think, be obtained from the history. Has that been your experience, Dr. Churchill?

DR. CHURCHILL: Yes.

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RHEUMATIC HEART DISEASE

AT a recent meeting of the New England Heart Association at the Boston Medical Library rheumatic heart disease was the subject for discussion. It was pointed out that the nature of the rheumatic process is still obscure, that the clinical recognition of an active rheumatic infection is difficult in many cases, and that the treatment of such infection when it is recognized is unsatisfactory. There was also a complaint expressed that we know little if any more about the disease than was known forty years ago and that a mere change of terminology and nomenclature such as has occurred does not indicate an advance in our knowledge. These are indeed challenges that demand our consideration and action.

A more careful analysis of the subject shows, however, that advances have been made, in the last decade in particular. Vague and general statements published many years ago may now be confirmed or discarded, in part or in whole, as the result of recent more trustworthy and detailed statistical studies; and gradually new facts are being discovered.

Among the newer or more clearly defined knowledge of the rheumatic infection are the following facts or concepts: 1) acute valvular disease may insidiously occur, frequently without any joint symptoms whatsoever but in just the same form as that found with acute polyarthritis; such endocarditis has been much more frequently overlooked in the past than it is today; 2) there has been a modification of the character of the rheumatic infection during the last generation, in part probably because of the frequent and world-wide use of antirheumatic drugs such as the salicylates; 3) there is a definite relationship between upper respiratory infections, especially with the hemolytic streptococcus, and the occurrence or recurrence of rheumatic endocarditis; years ago the tonsils were almost the sole focus of attention in this respect; 4) climatic conditions are of great importance with respect to the incidence of the rheumatic infection and to the protection of a rheumatic subject against recurrent infection, a tropical climate being strongly protective; this had been hinted at years ago but not so clearly shown as now; 5) there is a very distinct tendency for the rheumatic infection and rheumatic heart disease to occur in several members of the same family as proved by several analyses in the past ten years, which suggests among other things contagious and predisposing elements; 6) the manifestations of the rheumatic infection are no longer considered to be limited to the heart, pericardium, pleura, joints, and skin but are known to be widespread throughout the body, even involving arteries, lungs, and peritoneum; and 7) there is more and more evidence that the involvement of the heart and other tissues of the body in the rheumatic infection is an allergic phenomenon and not a response to direct bacterial invasion.

Most important of all, we are no longer content with our lack of knowledge about rheumatism, which has been largely the laissez faire attitude in the past, but recognizing this very lack of knowledge, we have pledged ourselves to concentrated study of the subject until we know a great deal more. The recent emphasis on the etiologic diagnosis of cardiovascular disease has been a great stimulus, and with such endeavors as those planned and in progress at the House of the Good Samaritan here in Boston, those of Swift and Coburn in New York, of Paul in New Haven and of others elsewhere we can look forward hopefully to the future, expecting that forty years from now our successors may look back to this as a fruitful era in the study of the rheumatic infection and of rheumatic heart disease, which have been such important unsolved medical problems in New England for generations.

A DEMONSTRATION RESPECTING THE MASSACHUSETTS CANCER PROGRAM

In another column* there is a letter by Dr. George H. Bigelow announcing the state-wide demonstration of the favorable results following the attack on cancer which should be generally read.

Massachusetts stands as the leader in this country, we believe, in the public administration of an anti-cancer campaign.

This movement was inaugurated by the people of the Commonwealth through its Legislature and is a demonstration of a demand for the concentration of intelligent treatment of this affliction. It was and is a challenge to the medical profession. The exhibition of cured cancer cases will be the answer.

When the responsibility for this anti-cancer campaign was placed with the State Department of Public Health the response was immediate and plans were formulated which called for coöperation of the scientific medical resources of the State. Surgeons, hospitals and the laity responded and clinics were established in appropriate centers designed to promote efficiency in diagnostic service with a centralized demonstration of therapeutic resources at Pondville.

An innovation of this character inevitably aroused careful scrutiny of its methods by the medical profession with varying reactions.

In a few instances the text of explanatory circulars and administration of the diagnostic service provoked criticism, but further experience seems to have effected the main object of the attack on cancer in that more cases have been discovered in the curable stage of the disease and as time goes on we will be assured of the cordial support of the profession in correcting any deficiencies or irregularities in procedure.

This exhibition of the results of the campaign will undoubtedly be regarded by the Legislature as a justification of its action in the first instance.

The medical profession can learn much in attendance upon the exercises outlined and intelligent laymen should be urged to pay attention to the program now under way.

It will take its place, we believe, alongside that of the tuberculosis program which has made Massachusetts unique among her sister states.

*Page 485.

THIS WEEK'S ISSUE

Contains articles by the following named authors:

Young, Edward L. Jr. A.B., M.D. Harvard University Medical School 1909. F.A.C.S. Assistant Visiting Surgeon, Massachusetts General Hospital. Surgeon, Faulkner Hospital. Consulting Surgeon, Robert B. Brigham Hospital. His subject is "The Diagnosis and Treatment of Carcinoma of the Colon." Page 429. Address: 279 Clarendon Street, Boston.

Kramer, S. D. M.A., Ph.D., M.D. Columbia University College of Physicians and Surgeons 1920. Instructor in Preventive Medicine and Hygiene, Harvard Medical School. Address: 178 Walter Street, Roslindale, Mass. Associated with him are:

Aycock, W. L. M.D. University of Louisville 1914. Assistant Professor of Preventive Medicine and Hygiene, Harvard Medical School. Assistant Professor of Preventive Medicine and Epidemiology, Harvard School of Public Health. Formerly Director of Poliomyelitis Research Laboratory, Vermont State Department of Health. Member, Harvard Infantile Paralysis Commission. Address: Harvard Medical School, Boston. And

Solomon, Charles I. M.D. Yale University School of Medicine 1925. Assistant on the Pediatric Staff in charge of Neurological clinic of the Pediatric Outpatient Department, Jewish Hospital of Brooklyn. Address: 555 Crown Street, Brooklyn, New York. And

Thenebe, C. L. M.D. University of Pennsylvania 1918. Resident Physician, Hartford Isolation Hospital. Visiting Pediatrist, St. Francis and Mt. Sinai Hospitals, Hartford. Address: Hartford Isolation Hospital, Hartford, Conn. Their subject is "Convalescent Serum Therapy in Preparalytic Poliomyelitis." Page 432.

Petroff, S. A. Ph.D. Columbia University, 1923. Bacteriologist and Director, Research and Clinical Laboratory, Trudeau Sanatorium, Trudeau, New York. His subject is "The Present Status of BCG Vaccination." Page 436. Address: Trudeau Sanatorium, Trudeau, New York.

Hamilton, James A. B.S., M.C.G. Assistant Professor of Industrial Management, Amos Tuck School, Dartmouth College 1923-. Superintendent, Mary Hitchcock Memorial Hospital, Hanover, New Hampshire 1926-. President, New England Hospital Association 1931-1932. His subject is "The Administrative and Economic Aspects of the Rural Hospital as an Agency of Social Service." Page 442. Address: Hanover, New Hampshire.

Rushmore, Stephen. A.B., M.D. Johns Hopkins University Medical Department 1902. F.A.C.S. Secretary, Massachusetts Board of Registration in Medicine. Vice-President, Boston Surgical Society. His subject is "The Medical Practice Act." Page 449. Address: 520 Commonwealth Avenue, Boston.

AN INVITATION TO THE MEDICAL PROFESSION

THE New England Medical Council has arranged for an evening session in connection with its meeting March 10 in Boston.

Dr. Morris Fishbein and Dr. Iago Galdston will deliver addresses dealing with the subject "Medical Publicity by Organizations and Individual Physicians." Dr. Fishbein is the Editor of the *American Medical Association Journal*. Dr. Galdston is the Executive Secretary of the New York Academy of Medicine. Both of these men have had extensive experience in dealing with problems of medicine in its scientific and sociologic aspects.

The New England Medical Council extends a cordial invitation to the physicians of Massachusetts to attend this evening session which will take place in Holmes Hall, Boston Medical Library, at 8 o'clock.

GEORGE BLUMER, New Haven, Conn.,
President.
WALTER P. BOWERS, Boston, Mass.,
Secretary.

THE BOSTON MEDICAL LIBRARY

ANTONIO SCARPA, F.R.S., M.D.

1746*-1832

ONE of the landmarks of surgical anatomy that is retained in most every doctor's memory from his student days is Scarpa's triangle, and yet this was but one of many things that might have made this scion of a poor Italian family distinguished. His birthplace was in the little village of Motta, on the Southern border of the Austrian Tyrol, probably in the year 1746, though by some his birth is dated as late as 1750. He fitted himself for the study of medicine for which he was educated at the University of Padua and from which he graduated. He found anatomy and surgery the most interesting subjects and in them he showed such proficiency that at twenty-two he was invited to take the Chair of Anatomy at the University of Modena, the latter made famous as the birthplace of Fallopius. This town was peculiarly suited to one of scholarly tastes. After spending a few years there he sought to broaden his scholarship by visiting Holland, England and France. On the completion of this extension of his studies he was recommended for the Chair of Anatomy at Pavia by the Emperor Joseph II and at thirty-seven he began his teaching there. This was in the year 1783. Pavia University dates from the time of Charlemagne, who founded it, and was at that time the center of anatomic research as well as the oldest of the European University centers. There were no restrictions imposed upon dissection there at that time and there was a splendid anatomic museum which attracted students from all over Europe to the number of two thousand, the greater proportion of whom attended Scarpa's courses. The members of the faculty, in addition to those in his own department, were distinguished in their respective fields thus making the atmosphere of the place congenial to those of scientific and scholarly interests. Volta was one of Scarpa's most distinguished colleagues. Furthermore the town, because of its beautiful location, had attracted many to settle there, so that it offered, in addition to the advantages already mentioned, opportunities for building up an excellent practice. His days were occupied by lectures in the early morning, demonstrations at the museum or the dissecting room in the middle of the day, visits to patients and operations at the Hospital Clinic later in the afternoon with his evenings devoted to writing out the observations of the day and shaping them into form as they appeared in the medical literature of his age. His earliest scientific contribution, a description of the auditory apparatus, was published from Pavia in 1789 and included the nerves of hearing and smell. It is still regarded as one of the classical contributions. Later he published another work entitled, "De Structura Fenestrae Rotundae." In this he described the aqua labyrinthi which was for a long time known as Liquor Scarpi. In 1794 he produced a paper dealing with the nerves of the heart. His dissections were so carefully conducted and his illustrations were so good that the work held a foremost place in literature for a long time. In 1799 he made a contribution to the study of the structure of bone, its growth, etc., though here his conclusions have not stood the test of later investigations. In this same contribution, which was translated into French, he included a treatise on club foot. In 1804 he published the results of his studies made in response to a suggestion from the Paris Society of Medicine upon the anatomy of aneurism. He also discussed the operative measures appropriate for its attempted cure. This was published in Italian. Some time later he published a thesis on the ligature of the principal arteries, advocating a temporary and partial compression for four or five days and then a removal of the ligature. In 1810 he produced a monograph on Hernia, approaching the subject from the anatomic side with practical surgical applications. It went through a number of editions and was translated into several languages. This was supplemented by a contribution upon perineal hernia based upon a case Scarpa had successfully controlled for many years with a truss. The patient died of phthisis and Scarpa had opportunity to make postmortem dissections of the hernial sac.

*His time of birth appears in different records as 1746, 1747, 1752.

He was of the opinion that ophthalmic surgery belonged in the province of the general surgeon and wrote quite extensively upon various ophthalmic operations, particularly in reference to cataract and the construction of an artificial pupil. Cancer was a subject that engaged his attention and the results of his experience and reflection were summed up in a monograph on "Scirrhus and Cancer" published in 1822, in which he concluded that, as there is no reason to suppose that a specific remedy can be found for the condition, treatment resolves itself into trying to determine what is the precise period when the diseased structures may be removed with the greatest likelihood of success. This is not unlike what we read today. His dictum in respect to treatment was: "Operate in the first stage."

There were many other less important subjects on which he wrote comparatively briefly, such as "The Lateral Operation for Stone", 1816; "The Anatomy and Pathology of Bones", 1827; "Hydrocele of the Spermatic Cord", 1823; and "Observations on Retro-vesical Cutting for the Extraction of Stone from the Urinary Bladder", 1823. In recognition of the importance of his scientific accomplishments he was honored by election to many foreign Societies. Among these were the following: membership in the Royal Institute of Literature, Science and Art, of the Venetian Kingdom; Foreign Associate of the Academy of Sciences of Paris; Chevalier of the Legion of Honor; Chevalier of the Imperial Order of Leopold and Fellow of the Royal Society of London. He continued to hold his chair at Pavia up to his sixty-sixth year when, having acquired through his surgical practice a considerable fortune, he resigned to become Rector of the Medical Faculty of Pavia. He brought much distinction to the University through his occupancy of this office and was in a position to indulge in the pursuit of certain interests in agriculture, the collection of works of art and the cultivation of his friendships. In his latter years he suffered from the loss of eyesight and succumbed to the effects of an inflammation of the bladder on October 30, 1832, at the age of eighty-seven, thus terminating a career distinguished for accurate observation, patient industry and forceful leadership of those who attached themselves to him as the director of their medical studies.

MASSACHUSETTS LEGISLATIVE NOTES

THE STATUS OF CERTAIN BILLS BEFORE THE LEGISLATURE

The following bills have been given leave to withdraw:

HOUSE 203 — petition of Horatio S. Card and others that Middlesex College of Medicine and Surgery, Inc., be authorized to confer the degree of doctor of dental medicine.

HOUSE 204 — petition of C. Ruggles Smith and others that the University of Massachusetts, Inc., be authorized to confer the degree of bachelor of Science.

HOUSE 593 — petition of the State Executive Committee of the Socialist Party that the Commonwealth establish an educational institution to be known as the University of the Commonwealth of Massachusetts.

HOUSE 251 — petition of William P. Prendergast relative to appointment and fees of physicians who make examinations under the laws relating to compensation for industrial accidents.

HOUSE 878 — petition of Dennis F. McCarthy that employees totally incapacitated in industrial accidents be paid compensation for not more than one thousand weeks.

HOUSE 617 — petition of Morton H. Burdick that a board of automobile personal injury medical examiners be established in the Department of Public Works.

SENATE 103 — petition of the Service Mutual Liability Insurance Company, by Morton H. Burdick, for legislation to regulate the recovery of compensation for a hernia under the workmen's compensation laws.

HOUSE 1061 — petition of William Welch and others that employees injured in industrial accidents be not required to visit doctors designated by insurance companies or the Department of Industrial Accidents.

HOUSE 679 — petition of Thomas F. Carroll that the Department of Public Health maintain medical and health clinics at beach resorts in certain cities and towns.

HOUSE 991 — petition of Thomas A. Niland that cities and towns be authorized to take property by eminent domain for improving health and sanitary conditions and relative to preference in employment on such improvements.

HOUSE 188 — petition (from files of 1931) of Arsene J. Pare for the establishment of a board of examination and registration to regulate the practice of magnetic healers.

The following bills have been referred to the next annual session:

SENATE 132 — petition of John S. Codman, chairman, New England Anti-Vivisection Society, for legislation to penalize certain experiments and operations on live dogs.

SENATE 106 — petition of the Fall River Central Labor Union, by John R. Machado, president, and William S. Conroy, that provision be made for the establishment and maintenance of a state hospital for the care of nervous cases.

HOUSE 136 — bill (accompanying 135, recommendations of the Commissioner of Public Health)

relative to subsidies to cities and towns for pulmonary tuberculosis cases.

HOUSE 143 — bill (accompanying 142, recommendations of the Department of Public Welfare) establishing a fee for licenses for maternity hospitals.

HEARINGS

HOUSE 477 — petition of James M. Curley, mayor, that the city of Boston be authorized to borrow money for increasing the facilities of the Boston City Hospital will be heard on March 7 before the Committee on Municipal Finance in Room 433 at 10:30 A.M.

HOUSE 680 — petition of William P. Hickey for legislation requiring that holders of undertakers' licenses be registered embalmers will be heard on March 8 (changed from February 18) before the Committee on Public Health in Room 450 at 10:30 A.M.

The following bills will be heard on March 9 before the Committees on Agriculture and Public Health at 10:30 A.M.:

SENATE 112 — petition of William L. Johnson for legislation to enlarge the scope of the definition of the words "pasteurized milk".

HOUSE 740 — petition of Frederick H. Bowser, Jr., and others for amendments of the law relative to the inspection and sale of milk.

HOUSE 741 — petition of Harvey G. Turner and Charles E. Shepard for amendments of the law relative to production, distribution and sale of milk and cream.

HOUSE 906 — petition of Lewis R. Sullivan, Jr., that application for registration as nurses be restricted to citizens of the United States. (H. Bill 1196, February 23.)

HOUSE 1084 — petition of Leo M. Birmingham that applications for registration as nurses be received only from United States citizens. (H. Bill 1196, February 23.)

MISCELLANY

HEALTH OF SCHOOL CHILDREN

A recent report of the United States Public Health Service, according to the *New York Times*, analyzes health conditions among school children. The report includes sickness, physical defects and mortality, and is based on data collected by the Service during the past decade in several localities, and physical defects found on examination of some 30,000 children by medical officers.

In Hagerstown it was found that absenteeism among about 4,000 school children amounted to thirteen days per child per school year. Fifty-seven per cent. of the days lost were due to sickness, and the remainder to other causes. Time lost on account of sickness was greater for the younger than for the older children. The most important illnesses in terms of numbers of cases were colds, headache, digestive disorders, tonsillitis and sore throat, toothache and influenza and grippe. The most important in terms of days lost were colds, influenza and grippe, tonsillitis and sore throat, measles, mumps and digestive disorders. The case rate of illness was eight per cent. higher for girls than for boys. The six conditions most frequently noted in physical examinations were decayed teeth, defective vision, defective tonsils, enlargement of anterior cervical glands, excessive wax in the ears and enlargement of the thyroid gland.

The age curve of mortality was found to be at a minimum from ten to fourteen years; the mortality from five to nineteen years being only a fraction of what it is under five years or among old people. The six most important causes of death from five to nineteen years are accidents, tuberculosis, heart disease, pneumonia, diphtheria and appendicitis. The death rate of all children in this age group in the original registration states has decreased 44 per cent. in the years from 1900 to 1927.

Mortality from diseases of the heart has increased only slightly in this age group; nephritis, both acute and chronic, has decreased markedly. Diabetes has shown a slight increase and appendicitis has increased gradually. Typhoid fever, diarrhea and enteritis have decreased a great deal since 1900. Diphtheria decreased markedly until 1912, fluctuated at a level for eight or nine years and has decreased considerably since 1921. Scarlet fever has decreased considerably and measles and whooping cough somewhat; the mortality from meningitis has decreased markedly since 1905, but that from poliomyelitis has increased since the 1916 epidemic.

As might be expected, deaths from automobile accidents have increased a great deal since 1906, and accidents in general are now the leading cause of deaths.

LEAVE OF ABSENCE GRANTED TO BENJAMIN SPECTOR, M.D.

Benjamin Spector, M.D., associate professor of anatomy at Tufts Medical and Dental Schools, has been granted leave of absence for study and research in Europe beginning March 1.

ASHBY HAZARD CONVICTED OF PRACTICING MEDICINE ILLEGALLY

Ashby Hazard, an unregistered person of Prentiss Street, Worcester, Massachusetts, has been convicted of practicing medicine illegally. He was sentenced to the house of correction for two months on the illegal practice charge and two months for the larceny of $200 from James Denaro. The trial was held in the East Cambridge Court. Hazard denied that he held himself out as a doctor and appealed.

THE APPOINTMENT OF DR. EDWARD REYNOLDS

Dr. Edward Reynolds will relinquish some of his arduous duties in connection with the Peabody Museum of American Archaeology and Ethnology and will in the future act in a more advisory capacity as Director Emeritus.

TUBERCULOSIS ABSTRACTS

BY THE NATIONAL TUBERCULOSIS ASSOCIATION

The pathology of pulmonary tuberculosis is difficult to understand because a complex terminology has been created to "pigeon-hole" certain gross appearances of the tuberculous lung. Our mental pictures of tuberculosis pathology would be clarified were we to disregard the terminology in vogue at present and in its place interpret the whole process on the basis of inflammation and repair. All stages from acute inflammation to advanced repair may be found in different portions of one tuberculous focus. Such are the conclusions of Medlar and Sasano, who studied the pathology of pulmonary tuberculosis in successive stages in animals. Extracts from the article follow:

PATHOLOGY OF PULMONARY TUBERCULOSIS

Tuberculosis is often set aside as a disease of distinctive pathology. It is probably true that there is some chemical specificity in tuberculous infection but morphologically the lesions represent biological reactions corresponding to those of inflammation and repair observed in infectious diseases generally. Under certain conditions, for example, tubercle bacilli may incite abscess formation and under other conditions tubercle formation. Such terms as "proliferative type," "exudative type," "caseous pneumonia," "chronic fibroid phthisis," cause confusion. They do not represent "specific" lesions, but merely stages, combinations of lesions, or appearances in the course of pathological development.

The authors studied pathological changes produced in rabbits by a very virulent strain of a bovine tubercle bacillus, whose characteristics were known by previous studies. By varying the dosage of bacilli it was possible to control in a large measure the number of tuberculous lesions. As nearly as possible all other factors were controlled.

Pulmonary tuberculosis in the rabbit differs in some respects from the disease in human beings, but doubtless the fundamental pathological principles are the same in both species. Probably the chief reason for the differences observed in the rabbit and man, is that in man previous contact with tubercle bacilli has developed some resistance to the infection, whereas the experimental animals experienced their first contact with the bacilli on the day they were inoculated. Another factor is that the rabbits were given a single injection, which contained far more tubercle bacilli than any person would inhale or ingest at a single exposure to infection.

Forty rabbits were uniformly inoculated and killed at different periods. Numerous blocks of tissue were then studied microscopically.

LESIONS FOUND AT AUTOPSY

The lesions found at various stages (illustrated and more fully described in the original article) were as follows:

After 48 hours

No gross lesions observed until after fixation. Then the organs were seen to be uniformly seeded with minute grayish spots which proved to be alveolar walls, congested and containing cellular exudate, consisting of mononuclear leucocytes and neutrophiles. An occasional mononuclear leucocyte or neutrophile was present in adjacent alveolar spaces. Tubercle bacilli difficult to find.

After 6 days

Lesions easily recognized in fresh specimen. They were discrete with normal intervening lung tissue and larger than those of 48-hour lung. Lesions were the result of increased congestion and of greater accumulation of leucocytes and neutrophiles. Alveolar walls were thickened. Adjacent alveoli were often filled with exudate of same cell types as in alveolar walls. No giant cells. No caseation. Tubercle bacilli more numerous.

After 12 days

Lesions were larger. Examination showed two types with gradations from one into the other:

(a) Typical mononuclear tubercles, composed wholly of mononuclear leucocytes. Adjacent alveoli contained from few to many cells of this type. Tubercle bacilli present in small numbers.

(b) Abscess composed of neutrophiles in central portion and mixture of neutrophiles and mononuclear leucocytes in periphery. Adjacent alveoli often filled with mixture of neutrophiles and mononuclears. Bacilli numerous. The lung at this stage had all gradations of lesions from (a) to (b). Tubercle bacilli became more numerous in the foci as these approached abscess type. Several abscesses showed a beginning erosion of bronchial or terminal bronchiole walls, with slight amount of inflammatory mass lying free. In the free exudate tubercle bacilli were easily found. Lung tissue normal except for lesions described. No caseation, no giant cells.

After 21 days

Marked increase in size of discrete tuberculous lesions. Abscesses much larger, some undergoing caseation, others had eroded alveolar or bronchial walls. Contents of these abscesses were discharged into alveolar spaces or into bronchi or bronchioles. Lung parenchyma adjacent to lesions involved in the enlarging inflammatory process. Mononuclear tubercles rarely seen. No giant cells. Tubercle bacilli abundant in all lesions.

For the first time, definite extension of tuber-

culous process into previously normal tissue was seen. This extension had occurred in two ways:

(a) Focal lesions had enlarged and adjacent parenchyma had become involved, but major portion of lung tissue uninvolved.

(b) Extension had occurred as a result of rupture of the tuberculous abscess into bronchi or bronchioles. Inhalation of contents of ruptured abscesses caused involvement of new areas of lung. These were separate from the older lesions and were composed of small groups of alveoli filled with exudate. Alveolar walls surrounding these small foci appeared normal. New areas contained many tubercle bacilli.

Lung 21 days after infection showing various types of lesions; abscesses, caseation and recent lesions due to "spread" by peripheral extension and by inhalation of exudate from ruptured abscesses.

From this stage on there occurred a continuation of the ulcerative process until eventually the lung became a solid mass of tuberculous tissue, and many of the lungs showed pyramidal areas of consolidation at their periphery, and at the apex of the consolidated mass, a tuberculous ulcer in a bronchus with considerable bacillus-laden exudate within its lumen.

"CONCLUSIONS

1. Massive pulmonary tuberculosis in the rabbit is dependent upon the rupture of pulmonary tuberculous abscesses into the bronchial tree and inhalation of the contents of these abscesses into the previously uninvolved lung tissue. It seems plausible that this is also the method of extensive dissemination of tuberculosis within the human lung.

2. The pathology of pulmonary tuberculosis is essentially a process of inflammation and repair. Interpreted upon the basis of inflammation and repair the complex pathology becomes greatly simplified and more easily understood.

3. The complex terminology used to describe the bizarre pathology of pulmonary tuberculosis is unnecessary and confusing.

4. The term 'specific' when used in connection with tuberculous lesions should be restricted to denote a biochemical, not a morphological specificity."

An Interpretation of the Pathology of Pulmonary Tuberculosis, E. M. Medlar and K. T. Sasano, Am. Rev. of Tuberc., Dec., 1931.

CORRESPONDENCE

CLINICS FOR THE DEMONSTRATION OF CURED CANCER CASES

The Commonwealth of Massachusetts
Department of Public Health
State House, Boston

February 18, 1932.

Editor, *New England Journal of Medicine:*

It has been estimated that if all cancer cases in the State of Massachusetts were divided evenly among all of the physicians in the State, each physician would see only about two cases per year, and thus few instances of the cure of cancer by surgery or by radiation can come within their experience. On this account it has been suggested that clinics devoted primarily to the showing of "cured" cases of cancer would be of great value to the profession as a whole. For this reason the Cancer Committee of the Massachusetts Medical Society in coöperation with the Massachusetts Branch of the American Society for the Control of Cancer and the State Department of Public Health has

asked the Boston Dispensary, the Free Hospital for Women, the Huntington Memorial Hospital, the Massachusetts General Hospital, the Palmer Memorial Hospital, and the Pondville Hospital to coöperate in offering such clinics. The physicians in charge of these clinics are respectively: Dr. Joseph Colt Bloodgood with Dr. Harry Friedman, Dr. William P. Graves, Dr. Channing C. Simmons, Dr. Robert B. Greenough, Dr. Daniel F. Jones, and Dr. Ernest M. Daland. In addition to the "cured" cases selected, cases demonstrating palliation will be shown. At the Boston Dispensary early mouth cases will be featured.

These "cured" Cancer Clinics are to constitute an important part of the State-wide Cancer Achievement Week Program, April 4-10. These clinics will be held April 5 and 6.

A booklet is being prepared which contains the history of the "cured" cases to be presented at the clinics. In order to be assured of the initial existence of cancer, sections on all these cases have been reviewed by a committee of pathologists consisting of Dr. S. Burt Wolbach, Dr. Tracy Mallory and Dr. Shields Warren.

There will be a dinner for the medical and dental groups at the Boston City Club, Tuesday, April 5, over which Dr. Graves will preside. Dr. Stetson, President of the Massachusetts Medical Society, and Dr. Gilpatrick, President of the Massachusetts Dental Society, will give addresses of welcome. Mr. John Finley, Editor of the New York Times, will speak on "The Importance of the Informed Public Opinion"; Dr. James Ewing will speak on "What Can the Medical Profession Do About Cancer?"; and Dr. Arthur H. Estabrook of the American Society for the Control of Cancer will also speak.

A luncheon for the medical and dental groups will be held Wednesday, April 6, at the Boston City Club over which Dr. Simmons will preside. Dr. Wolbach will speak on "What Can the Surgeon Expect in the Way of Guidance in the Treatment of Cancer from the Pathologist?"; Dr. Greenough on "How Best to Utilize Present Cancer Resources"; and Dr. Timothy Leary on "What Can We Expect from Cancer Education?" Dr. Graves will give a summary of this course for the profession.

All the dentists in the State will be invited to attend the course. Special clinics have been arranged for them at the Harvard and Tufts Dental Schools and they will join the physicians at the Boston Dispensary clinic, the dinner, and luncheon sessions.

In addition to these activities for the medical and dental groups, meetings for the cancer education of the lay public are to be held in Boston and other clinic cities.

The Boston public meeting will take place in one of the Shubert Theatres, April 6, at 8 P. M. with Dr. George H. Bigelow presiding. Governor Ely will speak at this meeting on "The State Program," and Mayor Curley on "Boston's Interest in the Program." Dr. Bloodgood will speak on "The Cure of Cancer." Dr. Ray Lyman Wilbur, Secretary of the Interior, will be present to speak on "The Necessity of Public Interest for the Success of Any Undertaking."

The local medical cancer committees have arranged public meetings as follows:

CITY—TIME—SPEAKERS

Fitchburg—April 8, at 7:45 P. M.—Dr. Frederick H. Thompson, Dr. Gaylord Anderson, Dr. Joe V. Meigs, Dr. Walter F. Sawyer.

Gardner—April 7, at 8 P.M.—Dr. George H. Bigelow, Dr. Clarence C. Little, Dr. Frederick H. Thompson.

Lawrence—April 8, at 8 P. M.—Dr. Mary R. Lakeman, Dr. Robert B. Greenough, Dr. J. Forrest Burnham.

Lowell, April 7, at 8 P. M.—Dr. Joe V. Meigs, Mr. Bernard E. Bradley.

North Adams—April 8, at 8 P. M.—Dr. W. J. Crawford, Dr. George H. Bigelow, Dr. Clarence C. Little, Dr. Martin M. Brown.

Pittsfield—April 8, at 8 P. M.—Dr. Herbert L. Lombard, Dr. W. P. Graves, Dr. T. P. Hennelly, Dr. I. S. Dodd.

Springfield—April 7, at 3:30 P. M.—Incomplete, Dr. Howard W. Haggard.

Worcester—April 7—Incomplete, Dr. Joseph Colt Bloodgood.

Lynn, New Bedford, Brockton—Incomplete.

Very truly yours,

GEORGE H. BIGELOW, M.D.,

Commissioner of Public Health.

ARTICLES ACCEPTED BY THE AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

535 North Dearborn Street, Chicago, Ill.,
February 26, 1932.

Managing Editor, the *New England Journal of Medicine,*

In addition to the articles enumerated in our letter of January 29 the following have been accepted:

Abbott Laboratories
- Bismo—Cymol

Calco Chemical Co., Inc.
- Trichlorethylene—Calco
  - Tubes Trichlorethylene—Calco, 1 cc.

Riedel-de Haem, Inc.
- Decholin
  - Decholin Tablets, 3 3/4 grains.
- Decholin-Sodium
  - Ampoules Solution Decholin-Sodium, 5 per cent., 10 cc.
  - Ampoules Solution Decholin-Sodium, 20 per cent., 10 cc.

E. R. Squibb & Sons.
- Iodobismitol—Squibb

Nonproprietary Articles
- Sodium Iodobismuthite
- Trichloroethylene

The following article has been exempted and included with the List of Exempted Non-medicinal Articles (New and Non-official Remedies, 1931, p. 481):

Robert McNeil
Lubricant—McNeil

Yours truly,

W. A. PUCKNER, *Secretary*,
Council on Pharmacy and Chemistry.

RECENT DEATHS

COX—DR. THOMAS COX, a practicing physician of Fall River, Massachusetts, died February 23, 1932. He was born in 1868 and graduated from the Long Island College of Medicine in 1893. He had been school physician for thirty years and was the United States Public Health Officer for his district. He was a Captain in the Medical Corps during the World War and was a member of the Fall River Medical Society and the American Legion. He leaves two daughters, Margaret F., and Helen P. Cox, and four brothers, Patrick, John, Michael and James Cox all of Fall River.

CANFIELD—DR. WILLIAM C. CANFIELD, formerly a member of the Massachusetts Medical Society, died February 8 at the age of 74. Dr. Canfield retired from practice several years ago on account of failing health.

He was born in Ohio in 1857 and graduated from the Annapolis Naval Academy, having been an appointee of General Grant. He served as an officer in the navy from 1873 to 1886 and was one of the group which accompanied General Grant on his trip around the world.

After leaving the navy he took a medical course at the University of Pennsylvania. He and his brother, also a doctor, conducted a sanatorium at Bristol, R. I., for several years.

He leaves three sons, Kenneth B. Canfield of Newton, Harold K. Canfield of Auburndale and Donald T. Canfield of Lafayette, Ind.

NOTICES

A LECTURE ON CLINICAL AND ANATOMIC FINDINGS IN FULMINATING RHEUMATISM

Dr. Alvin F. Coburn, Presbyterian Hospital, N. Y., will give a lecture on "Clinical and Anatomic Findings in Fulminating Rheumatism" at the Boston Medical Library, at 8 P. M., on March 18. This lecture has been arranged by the Department of Preventive Medicine at Tufts College Medical School. Physicians and medical students are cordially invited.

MEDICAL CLINIC AT THE PETER BENT BRIGHAM HOSPITAL

At 3:30 P. M., on Thursday, March 10, in the Amphitheatre of the Peter Bent Brigham Hospital, a medical clinic will be given by Dr. Henry A. Christian, to which physicians are cordially invited. The clinics will be held regularly on Thursday afternoons.

RADIO HEALTH MESSAGES

MARCH, 1932

Sponsored by the Public Education Committee of the Massachusetts Medical Society and the Massachusetts Department of Public Health.

Courtesy WBZA. Tuesdays at 5:00 P. M.

March

8 Personal Rights vs. Public Safety
15 Electrical Hazards in the Home
22 Can High Blood Pressure Be Avoided?
29 Rose Cold and Hay Fever

STATE HOUSE BROADCAST

Sponsored by the Massachusetts Department of Public Health.

Courtesy WEEI. Fridays at 12:30 P. M.

Health matters of public interest discussed by the Division Directors of the Department.

RADIO HEALTH FORUM

Queries from the public are answered under the sponsorship of the Department of Public Health.

Courtesy WEEI. Fridays at 4:50 P. M.

Questions on Health and Prevention of Disease may be sent to: Radio Health Forum, State Department of Public Health, State House, Boston.

REPORTS AND NOTICES OF OF MEETINGS

WEBSTER-DUDLEY MEDICAL CLUB

A regular meeting of the Webster-Dudley Medical Club was held February 24, at 8 P. M. at the Joslin House, Webster, Mass.

Dr. William Reid Morrison gave a very interesting talk on "Stomach Surgery and Surgical After Care."

INEZ M. CURRIE, M.D., *Secretary*.

THE SOUTH END MEDICAL CLUB

Dr. George Gilbert Smith, Urologist, Massachusetts General Hospital and Palmer Memorial Hospital, lectured on "Prostatic Obstruction" at the meeting of the South End Medical Club held February 16 at the office of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston. Dr. Smith said, "There are three causes of prostatic obstruction, namely, hypertrophy, fibrous contraction and cancer, but hypertrophy is the most common etiologic factor." According to "Lower and Johnson," simple glandular hypertrophy of the prostate may arise from excessive activity of the gonad-stimulating hormone of the anterior pituitary. This is due to degeneration of testicular tubules which leaves a proportionately greater amount of pituitary hormone free to act upon the prostate.

The results of prostatic obstruction are trabeculation of the bladder, dilation of ureters and kidney pelves with thinning of the renal cortex, and lowering of the renal function. The symptoms of these changes are cachexia, anemia, nausea and vomiting and dry tongue. If sepsis is added, toxemia results. Randall states that of men in their fifties 20% have benign hypertrophy, in their sixties, 30%, in their seventies, 40% and in their eighties, 50%. As diagnostic symptoms we find frequency and urgency, especially at night, difficulty in starting the stream and dribbling due to the overflow of urine from the distended bladder. Cancer of the prostate is characterized often by metastasis to bones, e.g., iliac and pelvic bones, ribs, sternum, clavicle; these cause pain in back and legs even without prostatic obstruction. In cancer, diagnosis must be made early to be of any efficient help. Early cases of hypertrophy may be treated by gentle massage, rectal injections of hot water to relieve congestion, avoidance of overeating and overfatigue. Long automobile rides may increase the prostatic edema. If a patient carries over two ounces of residuum, operation may be necessary to give relief. X-ray has been tried to diminish hypertrophy but found ineffective. Three types of operations are used, intraurethral, suprapubic and perineal. In cancer, the use of radium is under observation.

Before adjourning, the South End Medical Club expressed opposition to House Bill 226 (a bill to license chiropractors) which will come before the legislature on March 2, and the members signed a remonstrance which will be presented to the Committee of the Legislature which will conduct the hearing.

THE HARVARD MEDICAL SOCIETY

The regular meeting of the Harvard Medical Society was held in the Peter Bent Brigham Hospital on Tuesday evening, February 9, 1932. Dr. Harvey Cushing presided.

The medical case was presented by Dr. William Evans. A forty-nine-year-old housewife complained of swelling of the abdomen and dyspnea. The family and past histories were not of significance. Nine years ago, while under treatment for indigestion, her family physician noted dryness of the skin and obesity and made a diagnosis of myxedema. Treatment with desiccated thyroid gland in doses ranging from four to eight grains per day was instituted with a resultant loss of weight. After four years she tired of the treatment and began to take the thyroid only irregularly. Nine months ago her abdomen began to swell coincidently with the onset of dyspnea and orthopnea. For several months there had been marked urinary frequency. Physical examination showed moderate obesity with fat pads present in the submaxillary and supraclavicular regions. The skin was dry and pale and the hair coarse and sparse, especially in the temporal regions. Her cheeks showed the typical flush. Her reactions were slow and her speech was thick; because of a marked glossomegaly. There was definite cardiac enlargement and a blood pressure of 120/70. The lungs were clear. The abdomen was distended with shifting dullness present. Laboratory studies showed a moderate secondary anemia and a basal metabolic rate of minus forty-one. Catheterization yielded only four hundred cubic centimeters of urine. Abdominal paracentesis was performed and two and a half liters of straw-colored fluid which was subsequently shown to be urine was obtained. She suffered no ill effects from this procedure which apparently drained an enormously distended bladder. As the abdominal distention persisted, paracentesis was repeated after three days and two liters of yellowish fluid with a very high protein content were removed. Since then there has been marked symptomatic relief. She has been receiving thirty milligrams of thyroid extract daily and the basal metabolic rate has risen to minus thirty-one in a few days.

The cause of the ascites and of the distended bladder has not been ascertained. This is the third patient with long-standing myxedema recently seen at the Peter Bent Brigham Hospital who has discontinued the use of thyroid substance and has suffered a relapse.

Dr. William Mahoney presented a neurosurgical case. A thirty-nine-year-old male entered because of attacks of epileptiform convulsions occurring throughout fifteen years. The family and past histories were irrelevant. His seizures were generalized and without focal manifestations and usually lasted ten or fifteen minutes. Luminal was not effective in preventing the seizures. Neurologic examination was negative except for slight left facial weakness and slight hyposmia on the left. Roentgen examination showed a small calcified area in the right temporal region. A ventriculogram was done on the left and a slight depression of the anterior portion of the right ventricle was noted. A right bone flap was turned down and immediately on opening the dura a marked increase in vascularity over the right hemisphere was seen. There was a definite cluster of arterial vessels with a large afferent arterial radical. Auscultation revealed a systolic bruit over this cluster which disappeared as soon as the large arterial radical was clipped. No attempt was made to remove the cluster. His postoperative course has been uncomplicated and he has been given a course of x-ray treatments to the lesion. The diagnosis is angioma arteriata.

In discussing the case Dr. Cushing emphasized the importance of auscultation of the skull when intracranial pathology is suspected because occasionally a diagnostic bruit is heard. Whether it could have been heard in this case is questionable. Patients often hear the sound themselves but at times are not aware of it until the afferent vessel is clipped and the sound becomes noticeable by its absence. These angiomata are always susceptible

to radiation therapy and the prognosis in this case is excellent.

Professor John Beattie, McGill University, spoke on "Further Studies of Hypothalamic Function." Two years ago Dr. Beattie presented data to the society showing the relation of the posterior hypothalamic nuclei to cardiac rhythm. He has since continued anatomic and physiologic studies of this region and presented evidence showing the relation of the hypothalamic nuclei to both the sympathetic and parasympathetic nervous systems. His experiments were too complex to be reported in abstract.

THE ESSEX SOUTH DISTRICT MEDICAL SOCIETY

The Essex South District Medical Society held its regular meeting and dinner at the Hawthorne Hotel, Salem, at 7 o'clock P.M., February 10, 1932.

The guests of the evening were Dr. Lincoln F. Sise and Dr. Harry Germain, of Boston, who spoke upon the "Selection of the Anaesthetic for the Patient and Operation."

WM. T. HOPKINS, *Reporter.*

THE ANNUAL MEETING OF THE BOSTON HEALTH LEAGUE

The annual meeting of the Boston Health League occurred on February 25, 1932 at the Hotel Kenmore, Dr. John W. Bartol, President, in the chair. The program consisted of a banquet followed by an address by Louis I. Dublin, Ph.D., and discussions by the Massachusetts Commissioners of Health, Dr. George H. Bigelow and Dr. Charles F. Wilinsky.

During the progress of the banquet, the business session was conducted and reports by the President, the Secretary and the Treasurer portrayed the many functions of the League which showed the influence of this body on the many public health activities of Boston.

The officers elected for the ensuing year are as follows:

Honorary President: Francis X. Mahoney, M.D.
President: John W. Bartol, M.D.
Vice-President: Rev. Thomas R. Reynolds.
Treasurer: Richard G. Wadsworth, M.D.
Secretary: Charles F. Wilinsky, M.D.
Executive Committee: Gaylord W. Anderson, M.D., Miss Ida M. Cannon, Arthur B. Emmons, 2nd, M.D., Professor Curtis C. Hilliard, Frank Kiernan, Horace Morison, Miss Florence M. Patterson, George C. Shattuck, M.D., Richard M. Smith, M.D., Frank E. Wing.

Dr. Dublin's address, which was replete with suggestions for modifications of present day health programs, was instructive and stimulating and will be published in an early issue of this *Journal.*

MASSACHUSETTS GENERAL HOSPITAL

A Clinical Meeting of the Staff of the Massachusetts General Hospital will be held in the Moseley Memorial Building on Thursday, March 10, 1932, at 8:15 P.M.

PROGRAM

1. Presentation of Cases.
2. Studies on Anemia in Porto Rico,—Dr. William B. Castle, Associate Professor of Medicine, Harvard Medical School.

Physicians, medical students and nurses are cordially invited to attend.

COMMITTEE ON HOSPITAL MEETINGS.

SOUTH END MEDICAL CLUB

The next regular meeting of the South End Medical Club will be held at the office of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston, on Tuesday, March 15, 1932, at 12 noon. The speaker will be Douglas A. Thom, M.D., Professor of Psychiatry at Tufts College Medical School, and his subject: "The Mental Health of the Child."

All physicians are cordially invited to attend. The usual luncheon will be served at 1 o'clock.

WILLIAM HARVEY SOCIETY

The next meeting of the William Harvey Society will be held on Friday, March 11, 8:00 P. M., at the Beth Israel Hospital.

Speaker: Dr. Walter Bradford Cannon, George Higginson Professor of Physiology, Harvard Medical School.
Subject: "Vivisection and Animal Experimentation."
Chairman: Dr. Abraham Myerson, Professor of Neurology, Tufts College Medical School.

WATERTOWN PHYSICIANS' SOCIETY

The monthly meeting of the Watertown Physicians' Society will be held Monday evening, March 7, at 128 Mt. Auburn Street, Watertown.

Dr. Paul Wakefield of the State Board of Health will speak on the Chadwick Plan.

Meeting at 8:30 P. M. Interested physicians cordially invited to attend.

EUGENE F. GORMAN, *Secretary.*

FRANKLIN DISTRICT MEDICAL SOCIETY

The next meeting of the Franklin District Medical Society will be held March 8 at the Hotel Weldon, at 11:15.

Dr. W. R. Ohler of Boston will be present and will speak on Nephritis.

Dr. Halbert G. Stetson, President of the Massachusetts Medical Society, will make his official visit to the local society on that day.

CHARLES MOLINE, M.D., *Secretary.*

HARVARD MEDICAL SOCIETY

The next meeting of the Harvard Medical Society will be held in the Peter Bent Brigham Hospital

Amphitheatre (Van Dyke Street entrance) Tuesday evening, March 8, at 8:15 o'clock.

PROGRAM

Presentation of cases.

Giant Tortoises and Pythons and their Contribution to Physiology, by Dr. Francis G. Benedict, Director, Carnegie Nutrition Laboratory.

Medical students and physicians are cordially invited to attend.

JOHN HOMANS, *Secretary.*

SOCIETY MEETINGS CONGRESSES AND CONFERENCES

March 4—American Society for the Control of Cancer. See notice on page 427, issue of February 25.

March 7—Watertown Physicians' Society. See page 489.

March 8—Harvard Medical Society. See page 489.

March 10—Medical Clinic at the Peter Bent Brigham Hospital. See page 487.

March 10—Massachusetts General Hospital Clinical Staff meeting. See page 489.

March 11—William Harvey Society. See page 489.

March 15—South End Medical Club. See page 489.

March 18—A Lecture on Clinical and Anatomic Findings in Fulminating Rheumatism. See page 487.

March 26—Examination Conducted by the American Board of Obstetrics and Gynecology (written)—May 10 (general, oral and clinical). See page 252, issue of February 4.

March - April, Autumn — International Postgraduate Courses in Berlin. See page 1169, issue of December 10.

April 4-8—The American College of Physicians. See notice on page 1232, issue of June 4.

April 6 - June 1—New England Heart Association. See page 891, issue of October 29.

May 9-13—American Medical Association, New Orleans, La.

June 8, 9, 10—Massachusetts Medical Society, Hotel Statler, Boston.

June 21-24—Catholic Hospital Association. See page 369, issue of February 18.

September 19-22 — International Congress of Biliary Lithiasis. See notice on page 427, issue of February 25.

October 24-27—American Public Health Association. See notice on page 1321, issue of December 31.

October 24-28—Inter-state Postgraduate Medical Association of North America. See page 39, issue of January 7.

DISTRICT MEDICAL SOCIETIES

Essex North District Medical Society

May 4—Annual meeting at Lawrence.

Essex South District Medical Society

April 6, Wednesday—Essex Sanatorium, Middleton. Clinic 5 P. M. Dinner 7 P. M. Speaker, Dr. Arthur P. Wakefield, State Department of Health. Subject: 10-Year Tuberculosis Program in the Public Schools.

May 5, Thursday—Censors' Meeting, Salem Hospital, 3:30 P. M.

May 10, Tuesday—Annual Meeting. The Tavern, Gloucester. Speaker and subject to be announced later. Ladies invited.

Franklin District Medical Society

March 8—See page 489.

May 10—Meeting at the Weldon, Greenfield, at 11 A. M.

CHARLES MOLINE, Secretary.

Middlesex East District Medical Society

At a meeting of the executive committee the following schedule for the Middlesex East District Medical Society was arranged:

March 16—At Rotary Hall, Reading. Speaker to be announced later.

May 11—(Unless otherwise announced) at Woburn.

Norfolk District Medical Society

March 29—Place to be announced. Boston Public Health Meeting. Speakers, Honorable James M. Curley, Dr. Francis X. Mahoney, Dr. Charles Wilinsky, Dr. W. H. Griffin.

May—Annual Meeting, date and place to be announced.

May 5—Censors' Meeting for examination of candidates. Roxbury Masonic Temple, 171 Warren Street, Roxbury, 4 P. M. Fee $10.00 payable at time of examination. All candidates will have applications in the hands of the secretary one week prior to this date. All candidates from Medical Schools not on approved list of Society must have application complete two weeks prior to date of examination.

F. S. CRUICKSHANK, Secretary.

Norfolk South District Medical Society

March 3—Speaker: Roderick Heffron, M.D. Subject: Pneumonia.

April 7—To be announced later.

May 5—Annual Meeting.

The time of all meetings is 12 o'clock noon, at the Norfolk County Hospital, South Braintree. Censors will meet on May 5 at 11:15 A. M. at the Norfolk County Hospital.

N. R. PILLSBURY, Secretary.

Suffolk District Medical Society

March 30—Clinical Program, New England Deaconess Hospital.

April 27—The Annual Meeting, Boston Medical Library. Election of Officers.

The Medical Profession is cordially invited to attend all of these meetings.

REGINALD FITZ, M.D., Vice President.
LELAND S. McKITTRICK, M.D., Secretary.
HILBERT F. DAY, M.D., Boston Medical Library.

Worcester District Medical Society

Wednesday evening, March 9 — Memorial Hospital, Worcester, Mass. 6:30—Dinner, complimentary by Memorial Hospital. 7:45—A pediatric meeting.

Wednesday evening, April 13—Grafton State Hospital, North Grafton, Mass. 6:30—Dinner, complimentary by Grafton State Hospital. 7:45—Program to be announced later.

Wednesday afternoon and evening, May 11—Annual Meeting. Program to be announced later.

ERWIN C. MILLER, Secretary.

BOOK REVIEW

Child Health and the Community. An Interpretation of Coöperative Effort in Public Health. By COURTENAY DINWIDDIE. The Commonwealth Fund, New York, 1931. Price $1.00.

This book of eighty pages is the report of the Child Health Demonstration Committee of the Commonwealth Fund, which, during the years 1923 to 1929, conducted a series of four child health demonstrations. As the foreword states, "The Commonwealth Fund makes no claim for the complete success of these demonstrations. Each of the four had its failures as well as its successes; the program in each had its weak spots. An earnest and, on the whole, a reasonably successful effort was made to develop as complete and balanced a program as a five-year period and necessary adaptations to existing community conditions, not rapidly to be changed, made possible."

The communities chosen were Fargo, North Dakota; Athens, Georgia; Rutherford County, Tennessee, and Marion County, Oregon. The successes of the demonstrations were based, in the last analysis, on the degree of support given by the local medical practitioners and on their effect on public opinion.